Assessing wisdom-related competence in the context of medical education

Johannes Bur[1], Ulrike-Marie Krause[2], Robin Stark[3]

Abstract

Background: Our model of wisdom-related competence distinguishes wisdom-relevant and wisdom-specific knowledge and attitudes (13 dimensions in total) as a basis for constructive action in complex social contexts such as professional therapeutic situations.

Purpose: Based on this model reflecting modern challenges of medical education, we aimed at assessing medical students’ wisdom-related competence in general and as a function of scenario content, age and study progress.

Methods: We conducted scenario-based interviews with a sample of 15 medical students. All participants were faced with same four scenarios reflecting complex situations. Then, we performed a content analysis on the interview transcripts using a specific coding manual.

Results: Findings indicate a low level of wisdom-related competence in the analysed sample; participants’ mean total score was $M = 156.47$ ($SD = 61.50$) of 364 possible points. Corresponding to previous findings of psychological wisdom research, only few participants reached high scores. The students scored higher in wisdom-relevant dimensions than in wisdom-specific dimensions and higher in knowledge than in attitude dimensions.

Conclusions: Regarding these results and the fact that wisdom-related knowledge and attitudes facilitate wise decisions and wise action in complex medical contexts, the curriculum of medical education should more largely integrate wisdom-related goals and learning opportunities.

Keywords: medical education, physician-patient-relationship, professional development, psychological wisdom research, wisdom-related competence

Introduction

Challenges of modern medical education

Medical training has shifted towards a more holistic, patient-centred approach: besides classical theoretical education conveying medical basic knowledge and basic skills (e.g. in physiology, diagnostics and therapy), modern medical training also aims at developing medical students’ practical skills in doctor-patient interaction as well as in dealing with different points of view (patients, doctors, relatives), in handling of different interests (medical, economical, ethical), in application of interdisciplinary approaches and interdisciplinary cooperation (Bleakley, Bligh & Browne, 2011; Federal Ministry of Health, 2002). Empirical findings indicating that patient-centeredness in the doctor-patient interaction is beneficial both on an individual and on an institutional level support this change in medical education. First, it increases contentedness of patient and doctor and the patient's well-being. Second, it decreases the number of referrals and ordered laboratory tests and thus reduces costs (Stewart et al., 2000), which is important for hospitals (Vogd, 2006).

Medical students however tend towards a paternalistic, doctor-centred, i.e. monoperspective view of the doctor-patient relationship in the
course of their studies (Haidet et al., 2002). Besides, they do not feel ready for the challenges of medical practice. German medical students and graduates, for example, rate their core clinical skills as poor (Fischer et al., 2007). In several surveys, between a fifth and a quarter of the surveyed alumni stated that they felt poorly or even very poorly prepared for the job as a doctor by their university studies (Federkeil, 2004; Jungbauer, Kamenik, Alfermann & Brähler, 2004). This concerns theoretical knowledge as well as practical skills like dealing with patients and independent decision making on diagnosis and therapy (Fischer et al., 2007).

Given the growing importance of doctor-patient interaction and multi-perspective approach in medical education and practice as well as low skills among students in this field, there is a need for competences that are related to wisdom and to our model of wisdom-related performance. In a dynamic and complex setting such as hospital life, especially in doctor-patient communication, these competences facilitate professional action and personal development (Federkeil, 2004; Jungbauer et al., 2004). While a number of recent studies in medical education address verbal and related key competences, studies on wisdom-related competence are still rare in this context.

Our model of wisdom-related competence

Based on the Berlin Wisdom Paradigm (Staudinger & Baltes, 1996b) and the Balance Theory of Wisdom (Sternberg, 2001), our model of wisdom-related competence distinguishes wisdom-relevant and wisdom-specific knowledge as well as wisdom-relevant and wisdom-specific attitudes and includes thirteen dimensions in total (Stark, 2006; Hoffmann, 2008) (see Figure 1). Wisdom-relevant knowledge and wisdom-relevant attitudes can be described as necessary, but not sufficient prerequisites for wisdom or wise action: someone meeting these requirements might be very sophisticated or smart, but not necessarily wise (Sternberg, 2004). These criteria are comparable to basic criteria in the Berlin Wisdom Paradigm. Wisdom-specific knowledge and wisdom-specific attitudes are dimensions that characterise wisdom and actually wise acting people in particular. These criteria are comparable to meta-level criteria in the Berlin Wisdom Paradigm (Staudinger & Baltes, 1996b).
Wisdom-relevant knowledge consists of different knowledge components that facilitate wise action. Domain-specific background knowledge refers to the thematic context (in the present study: medicine). Knowledge about the structure and functioning of social units includes knowledge about standards, rules, expectation structures and any kind of mechanism enabling successful action in a particular social context (here: knowledge about structures and mechanisms of German hospitals and German healthcare system) (Federkeil, 2004; Jungbauer et al., 2004). For successful social interaction, knowledge and strategies concerning communication are needed (here especially concerning doctor-patient communication). Knowledge about and insight in oneself and others, consisting of the capability of self-reflection as well as knowledge about and understanding of other people (knowledge of human nature), is an important prerequisite for personal development (in this case important inter alia with regard to empathy towards patients). On a more abstract level, wisdom-relevant knowledge also means knowledge about human ontogenetic development and the plurality of lifestyles, including general and specific knowledge about personality and developmental aspects of life (Staudinger & Baltes, 1996b). Complex life situations, characterised by lack of transparency, by dynamics, plurality and interdependence of variables, require knowledge and strategies for handling complex problems, for example understanding relevant situational cues or setting reasonable goals and subgoals in order to initiate an effective problem-solving process – for example in diagnostics and therapy (Dörner, 1989).

One aspect of wisdom-specific knowledge is knowledge about limitations and fallibility of (one’s own) knowledge. In analogy to Socrates’ saying “I know that I know nothing”, wise people’s view on their own competences and judgments is more humble and realistic. Additionally, knowledge and science are perceived as potentially fallible and ephemeral: what is believed to be true today must not be true tomorrow. Knowledge about the relative indetermination of life course refers to the awareness that human life is characterised by a number of largely unpredictable occurrences (that can be perceived as positive or negative events) and therefore can be planned ahead...
only to a certain degree (Hoffmann, 2008). This applies in the medical field in particular to diagnosis and therapy. *Existential knowledge* completes the list of wisdom-specific knowledge dimensions. It comprises knowledge about borderline situations of human existence and their impact on personal development. Besides, it includes the knowledge that it is important to empathise with and help the affected people (Staudinger & Baltes, 1996b). Borderline situations and existential experiences such as one’s own and other one’s suffering and anguish are typical in medical context (Jaspers, 1932).

Wisdom-relevant and wisdom-specific knowledge form a knowledge base which the individual can draw on when making difficult decisions. For efficient decision making, the *nature and structure* of this knowledge base is relevant, that is the scope, depth, differentiation and interconnectedness of its elements. According to our model, the decision-making process, especially in complex situations, becomes more efficient when the knowledge base consists of a) *highly interconnected elements* of b) *in-depth knowledge* about c) *a multitude of different domains/situations* and can thus be flexibly applied to complex problems (Staudinger & Baltes, 1996b; Greeno, Smith & Moore, 1993).

Wisdom-relevant attitudes are strongly connected to wisdom-relevant knowledge. *Contextualism and relativism* imply the awareness and acceptance of the contextuality of behaviour instead of the strict application of abstract principles such as ‘justice’ or ‘fairness’ (Pasupathi, Staudinger & Baltes, 2001). According to the principles of client-centred therapy, unconditional positive regard, empathic understanding, and congruence (genuineness) are central attitudes needed for constructive social interaction and for coping with complex therapeutic situations (Rogers, 1951). These attitudes are summarised in the term *person-centeredness* (Cooper, O’Hara, Schmid & Wyatt, 2007).

Wisdom-specific attitudes include a high level of *ambiguity tolerance*: Ambiguity in a sense of lack of knowledge of all facts, connections and possible consequences of a situation (Baltes & Staudinger, 2000), as it occurs especially in complex medical situations, is accepted and not perceived as a threat.

According to findings of Baltes and Staudinger, ontogenesis of wisdom mainly depends on three factor groups: *general person factors* such as cognitive mechanics, intelligence, mental health, social competence and openness to experience, *expertise-specific factors* such as experience, practice, mentorship and motivational dispositions as well as facilitative *experiential contexts* such as age, education, profession, historical period (Staudinger & Baltes, 1996b; Baltes & Staudinger, 1993). Organizing processes (life planning, life management and life review) act as mediators in the development of wisdom-related competence. As regards especially the age, Pasupathi, Staudinger and Baltes showed that people’s wisdom score on average is continuously increasing until the age of 25 (Pasupathi et al., 2001); from the age of 25 on, wisdom-relevant performance and age hardly depend on each other (Staudinger & Baltes, 1996b).

**Assessing wisdom-related competence through dilemma interviews**

In psychological wisdom research, especially as regards the Berlin Wisdom Paradigm, wisdom-related competence is often assessed by means of semi-structured interviews, similar to research on moral reasoning (Blatt & Kohlberg, 1975). In the present study, we also chose this method to investigate aspects of wisdom-related competence by supporting ourselves on the assessment procedure for wisdom-related knowledge developed by Staudinger, Smith and Baltes and the Moral Judgment Interview (MJI) for the assessment of moral reasoning (Staudinger, Smith & Baltes, 1994; Colby & Kohlberg, 1987). Both interview procedures are based on dilemma situations which are presented to the interviewees who are then instructed to find a solution and give reasons for their decisions (Colby & Kohlberg, 1987). We developed four dilemma scenarios with the help of medical experts of paediatric oncology which describe typical conflict situations in doctor-patient communication (Hoffmann, 2009). They are described in detail in the "Methods" section (see below).

**Research goals and hypotheses**

1. The main aim of our study was to assess medical students' level of wisdom-related competence according to our model, including strengths and shortcomings in certain wisdom-related knowledge and attitude dimensions.

We hypothesized that

1.1. the participants showed a moderate general level of wisdom-related competence - similar to research on moral reasoning (Colby & Kohlberg, 1987) and similar to previous wisdom research in other fields (Staudinger & Baltes, 1996a),

1.2. the students' scores in wisdom-relevant dimensions (which are necessary but not sufficient for wisdom-related competence) were significantly higher than in wisdom-specific dimensions (which characterise wisdom in a narrower sense) – in accordance with results of the Berlin Wisdom Group (Staudinger & Baltes, 1996a),

1.3. the interviewees scored significantly higher in knowledge dimensions than in attitude dimensions – according to findings of wisdom research in other domains (Staudinger & Baltes, 1996b; Staudinger & Glück, 2011).
2. In addition, we investigated the differences in the students’ level of wisdom-related competence as a function of demands of the used scenarios.

We expected students’ scores in scenarios 1 to 3 (communication of breaking bad news) to be significantly higher than in scenario 4, as scenario 4 required additional dealing with religious conflicts. According to the Cognitive Load Theory, higher task complexity leads to higher intrinsic cognitive load and impairs information processing (Sweller, Ayres & Kalyuga, 2011).

3. Moreover, we were interested in potential age and study progress differences regarding the students’ general level of wisdom-related competence as well as their scores in certain knowledge and attitude dimensions and particular scenarios.

We expected a positive correlation between age and wisdom-related competence, as wisdom-related competence develops especially during adolescence, i.e. in the age of our participants (Staudinger & Baltes, 1996b; Pasupathi et al., 2001). Analogously, there should be a positive correlation of number of studied semesters and wisdom-related competence because of the assumed correlation between study progress and acquired knowledge base relevant to some of our aspects of wisdom-related competence (e.g. wisdom-relevant knowledge).

Methods

Design and setting

Based on an expert survey, we developed four scenarios dealing with problematic aspects of doctor-patient-communication in hospital. The following scenarios were presented during the interviews:

**Scenario 1:** After an operation, a surgical sponge has been left accidentally inside the patient’s abdomen (“gossypiboma”). As attending physician, you are in charge of informing the patient.

**Scenario 2:** You have tested one of your patients on HIV at her/his own request and she/he is now waiting for the test results. Just now you are informed that the test results are positive, meaning the patient is infected with the HI-virus. You accidentally meet the patient in the corridor and the patient asks: “Doctor, are my test results there yet?”

**Scenario 3:** You work in the emergency room. A patient is admitted after a serious car accident and dies of her/his injuries shortly after. You are now in charge of asking the relatives whether organs of the deceased can be removed for transplantation.

**Scenario 4:** A child, who needs a blood transfusion for her/his survival, is admitted to hospital. The child’s family is a member of a sect (Jehovah’s Witnesses) that strictly refuses blood transfusions for religious reasons.

The scenarios differ in context and recipient of the communication situation; they have in common that they describe typical complex situations in medical context that require a high level of competence (Hoffmann, 2008). Scenarios 1-3 are aimed at the transmission of bad news, scenario 1 further deals with avoiding a lawsuit by a malpractice, scenario 2 additionally deals with conveying an infaust diagnosis and scenario 3 further deals with achieving a consent. Scenario 4 finally deals with conflicts between religious rules and medical treatment.

The participants of the study were faced with these four scenarios in the context of semi-structured interviews; all participants worked on all scenarios. The interviews were loosely structured by five guiding questions (adapted from Staudinger et al., 1994) in order to give the participants a guideline without influencing their answers.

Sample

We interviewed 15 students (9 female, 6 male) who studied medicine at a German university. The students’ semesters varied from the 5th to the 22nd semester ($M = 9.58$ semesters, $SD = 4.08$); age varied between 23 and 31 years ($M = 26.66$ years; $SD = 2.66$).

Data analysis

The interviews were digitally recorded and manually transcribed. Afterwards, we performed a content analysis of the interviewees’ answers. For this purpose, we developed a coding manual based on our approach of wisdom-related competence (Hoffmann, 2008) as well as on similar instruments by Staudinger et al. (1994). Thus, it comprises four superordinate categories (wisdom-relevant knowledge, wisdom-specific knowledge, wisdom-relevant attitudes and wisdom-specific attitudes) which consist of various subcategories (see Figure 1 for a detailed overview), 13 in total. For every subcategory, we defined criteria for ideal answers (Hoffmann, 2008) and then coded the interview answers using a 7-point scale for each subcategory, ranging from 1 point (little or no congruence with an ideal answer) to 7
points (strong congruence with an ideal answer). Thus, participants’ maximum score per scenario were 91 points (13 categories with maximum 7 points). Taking into account that we presented four scenarios, the maximum total score was 364 points. In order to maximize objectivity, we additionally defined differentiated criteria and exemplary answers for the anchor points of the 7-point scale (1, 4 and 7 points). We chose a 7-point scale because it allows necessarily and sufficiently differentiated assessment of interview answers.

Interview data was coded by two raters who had participated in a specific training; interrater reliability proved to be satisfying with a Cohen's κ of .78.

**Results**

1. With regard to general level of wisdom-related competence and possible strengths or shortcomings in certain dimensions, the participants performed as follows:

1.1. Participants' total interview scores \((n = 15)\) ranged from 55 points (15%) to 248 points (68%) of a theoretical maximum of 364 points \((M = 156.47; SD = 61.5)\), the participants on average reached 43% of the theoretical maximum and the variance of performance score was high.

1.2. Dimensions’ means amounted to \(M = 3.45 (SD = 1.20)\) for wisdom-relevant dimensions (wisdom-relevant knowledge and attitudes) in contrast to \(M = 2.03 (SD = 1.29)\) for wisdom-specific dimensions (wisdom-specific knowledge and attitudes) from a theoretical maximum of 7 points, respectively. This difference was significant \((t(14) = 7.65, p < .01)\), the effect size was rather high \((d = 1.14)\) (see Table 1).

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>min</th>
<th>max</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>wisdom-relevant</td>
<td>3.45</td>
<td>1.20</td>
<td>1.36</td>
<td>5.14</td>
<td>7.65</td>
<td>&lt; 0.01</td>
<td>1.14</td>
</tr>
<tr>
<td>dimensions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wisdom-specific</td>
<td>2.03</td>
<td>1.29</td>
<td>.38</td>
<td>3.94</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dimension</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table 1: wisdom-relevant vs. wisdom-specific dimension (dependent t-test for paired samples, df = 14); theoretical. min.-max.: 0-7*

1.3. Comparing knowledge dimensions (wisdom-relevant and wisdom-specific knowledge) with attitude dimensions (wisdom-relevant and wisdom-specific attitudes), participants reached considerably higher scores on knowledge dimensions \((M = 3.15, SD = 1.22)\) than on attitude dimensions \((M = 2.54, SD = 1.06, \text{theoretical maximum: 7 points})\). This difference was also significant \((t(14) = 8.47, p < .01)\), the effect size was moderate \((d = .53)\) (see Table 2).

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>min</th>
<th>max</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>knowledge dimensions</td>
<td>3.15</td>
<td>1.22</td>
<td>1.08</td>
<td>4.93</td>
<td>8.47</td>
<td>&lt; 0.01</td>
<td>.53</td>
</tr>
<tr>
<td>attitude dimensions</td>
<td>2.54</td>
<td>1.06</td>
<td>1.00</td>
<td>4.25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Table 2: knowledge vs. attitude dimensions (dependent t-test for paired samples, df = 14); theoretical min.-max.: 0-7*

2. Concerning the differences in interviewees’ level of performance as a function of each scenario, scenario 3 was dealt with most successfully \((M = 3.44, SD = 1.39)\), followed by scenario 2 \((M = 2.95, SD = 1.49)\) and scenario 1 \((M = 2.88, SD = 1.57)\). The participants showed the lowest performance in Scenario 4 \((M = 2.77, SD = 1.30, \text{theoretical maximum: respectively 7 points})\). However, in contrast to our expectations, the differences between scenarios are altogether not statistically significant. The effect sizes are small (see Table 3).
Table 3: two-scenario comparisons (dependent t-test for paired samples, df = 14); theoretical min.-max.: 0-7

<table>
<thead>
<tr>
<th></th>
<th>M difference</th>
<th>SD difference</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1 vs. scenario 2</td>
<td>.06</td>
<td>1.05</td>
<td>.25</td>
<td>.81</td>
<td>.05</td>
</tr>
<tr>
<td>Scenario 1 vs. scenario 3</td>
<td>.55</td>
<td>1.06</td>
<td>2.03</td>
<td>.06</td>
<td>.38</td>
</tr>
<tr>
<td>Scenario 1 vs. scenario 4</td>
<td>.11</td>
<td>1.78</td>
<td>.25</td>
<td>.81</td>
<td>.08</td>
</tr>
<tr>
<td>Scenario 2 vs. scenario 3</td>
<td>.49</td>
<td>.97</td>
<td>1.95</td>
<td>.07</td>
<td>.34</td>
</tr>
<tr>
<td>Scenario 2 vs. scenario 4</td>
<td>.18</td>
<td>1.54</td>
<td>.45</td>
<td>.66</td>
<td>.13</td>
</tr>
<tr>
<td>Scenario 3 vs. scenario 4</td>
<td>.67</td>
<td>1.49</td>
<td>1.73</td>
<td>.11</td>
<td>.50</td>
</tr>
</tbody>
</table>

The same holds true for the comparison of scenarios 1 to 3 as a unit requiring similar competences in communication of breaking bad news with scenario 4 requiring additional competence in dealing with religious conflicts (t(14) = .83, p = .42, d = .24) (see Table 4).

Table 4: classified scenario score comparison (dependent t-test for paired samples, df = 14); theoretical min.-max.: 0-7

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>min</th>
<th>max</th>
<th>t</th>
<th>p</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1 - 3</td>
<td>3.09</td>
<td>1.36</td>
<td>1.10</td>
<td>5.21</td>
<td>.83</td>
<td>.42</td>
<td>.24</td>
</tr>
<tr>
<td>Scenario 4</td>
<td>2.77</td>
<td>1.30</td>
<td>.92</td>
<td>5.08</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. As regards the relevance of age and study progress for wisdom-related competence, there was a nonsignificant low-level correlation between the age of the participants and their total score in our study (r(13) = .14, p = .63) as well as between their number of semesters and the total score (r(10) = -.37, p = .29).

**Discussion**

**General level of wisdom-related competence**

In our study, the interviewed medical students displayed a rather low wisdom-related competence. Only few participants reached high scores in the analysis of the presented scenarios. The participants' mean scores in wisdom-relevant dimensions (wisdom-relevant knowledge and wisdom-relevant attitudes) were significantly higher than their mean scores in wisdom-specific dimensions (wisdom-specific knowledge and wisdom-specific attitudes). Thus, the interviewees performed rather poorly especially as regards the categories that are characteristic and indispensable for wisdom-related competence. These findings correspond to previous results of psychological wisdom research (Maercker, Böhning-Krumhaar & Staudinger, 1998; Maercker, 1995).

However, lower scores could be due to the assessment method. The dilemma situations that were presented to the participants were hypothetical in nature and thus did not concern the participants directly. A person's answer to a hypothetical dilemma situation might not represent her/his actual thoughts and behaviour in a real life situation (Haan, 1975, 1978; Rest, 1986). Moreover, the interview method only allows to record information that interviewees are able to verbalise. Hence, implicit processes and implicit knowledge are not identified (Aspinwall & Staudinger, 2003; Ericsson & Simon, 1980; Shiffrin & Schneider, 1977). The students' actual competences may therefore exceed the diagnosed level (Haan, 1978).

**Shortcomings in certain knowledge or attitude dimensions**
Participants’ scores were especially low in the categories “knowledge about the relative indetermination of life course” \((M = 1.65, \ SD = 1.65)\) and “ambiguity tolerance” \((M = 1.02, \ SD = 1.20)\). This could be attributed to the students’ young age and little life experience. However, in the light of psychological wisdom research, this explanation might be too superficial. In studies conducted in the framework of the Berlin Wisdom Paradigm, not the biological age, but rather the number of critical life events proved to be a predictor for attained wisdom scores (Maercker et al., 1998; Maercker, 1995). As we did not collect detailed biographical data, we are at this point not able to make validated statements. Nonetheless, previous research suggests that wisdom-related competence develops successively and that within this development, ambiguity tolerance emerges mainly during the later stages of personal development (Maercker, 1995; Pasupathi & Staudinger, 2001). The interview procedure itself could as well contribute to low scores in these categories: the participants may have felt the urge to respond as quickly as possible without really taking time to think the presented scenarios through. In this situation, ambiguity possibly seems inappropriate; all the more, as all four scenarios call for immediate action (e.g. making vital decisions) (Hoffmann, 2008).

**Differences in the level of competence between scenarios**

There were no significant differences of students’ performance as a function of scenario type. However, at least on a descriptive level, students had more difficulties analysing the fourth scenario (blood transfusion). Many participants showed extensive knowledge gaps and a lack of perspective-taking as regards this scenario: own actions were often planned on the basis of prejudices and a negative attitude towards the patient. Especially in categories of social interaction (e.g. “knowledge about social units”, “person centeredness”), many participants scored lower than in the other three scenarios. In other more abstract and less emotion-related categories (e.g. “knowledge and strategies for handling complex problems”), the students’ scores in the four scenarios did not differ. This indicates that some dimensions of wisdom-related competence (especially social-emotional factors) are more context-specific than other dimensions (Maercker et al., 1998). This supposition needs to be examined in further studies with a larger sample size.

**Conclusion**

Physicians’ professional lives often require wise decisions and actions: according to the modern curriculum in medicine, physicians have to be in charge of theoretical medical basic knowledge, of practical medical skills, of competences in doctor-patient interaction, of expertise in multi-perspective approach to medical questions and of interdisciplinary skills (Bleakley et al., 2011; Federal Ministry of Health, 2002). These requirements correspond to the categories of our model of wisdom measuring inter alia domain-specific knowledge, knowledge about social units and communication as well as about person-centeredness in communication, knowledge about plurality and perspective takeover as well as about contextualism and relativism and ambiguity tolerance.

The medical students in our study however displayed low levels of wisdom-related competence, especially as regards socio-emotional dimensions. Although our study has some limitations and our findings need further support by future research, it allows to deduce that it might be promising to systematically promote wisdom-related competence in the field of medical education in order to facilitate the achievement of educational aims. Obviously, there is a need for increased instruction concerning wisdom-related competence in this field, particularly as the participants expressed great interest in training programmes (Hoffmann, 2008). They suggested the discussion of scenarios together with experienced clinicians as well as simulating the scenarios in role plays.

Our model of wisdom-related competence as a combination of knowledge and attitudes can be considered as a rather comprehensive and yet practicable approach to wisdom. Even if wisdom as an ideal which emerges as a result of an integrated development of knowledge and personality cannot be taught directly (Staudinger, 2008), psychological wisdom research still provides a useful orientation for the promotion of “judgment and counselling competence in difficult and important questions of life” (Staudinger & Baltes, 1996b). A curriculum that includes wisdom-oriented goals and learning opportunities could foster knowledge and attitudes for dealing with complex social situations and existential human problems in a clinical context. Further research on wisdom-related competence should also focus on the assessment and promotion of wisdom-related competence in other fields that require wise decisions and action, such as psychotherapy, counselling and education.

**Take Home Messages**

**Notes On Contributors**

**Johannes Bur**

First State Examination in Educational Sciences, French Linguistics and Literature and Catholic Theology in 2012; since 2013 scientific assistant at the chair of Personality Development and Education, Department of Education, Saarland University
Prof. Dr. Ulrike-Marie Krause

Diploma in psychology in 2000; PhD in 2005; habilitation in 2010; since 2011 professor for Educational Sciences, Department of Education, University of Oldenburg

Prof. Dr. Robin Stark

Diploma in psychology in 1993; PhD in 1998; habilitation in 2002; since 2003 professor for Personality Development and Education, Department of Education, Saarland University

Acknowledgements

Bibliography/References


survey at 3 time points during medical education. Medical Teacher, 29, 397-99.


Hoffmann, M. C. (2008). Also, ich als Arzt oder Ärztin hab' ja nicht wirklich 'ne Ahnung". Weisheitsbezogene Kompetenzen im medizinischen Kontext ["Well, I as a doctor do not really have a clue". Wisdom-related competencies in the medical context] (Thesis). Saarland University, Germany.


attending and a general theory. Psychological Review, 84, 127-190.

http://dx.doi.org/10.1037/0033-295X.84.2.127


http://dx.doi.org/10.1080/15427600802034835


http://dx.doi.org/10.1037/0022-3514.71.4.746


http://dx.doi.org/10.1146/annurev.psych.121208.131659


http://dx.doi.org/10.1207/S15326985EP3604_2


http://dx.doi.org/10.1027/1016-9040.9.3.145


http://dx.doi.org/10.1007/978-1-4419-8126-4


Appendices

Declaration of Interest

The author has declared that there are no conflicts of interest.