

# Exploring Psychosocial Determinants of Diversity Sensitive Task Perception and Behavioural Intentions in a Health Care Student Population: Recommendations for Diversity Education in Health Care

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## Research Article

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# Abstract

**Background:** Diversity sensitive task perception and diversity sensitive behavioural intentions are strong predictors of diversity sensitive care. Nevertheless, it has been less clear which psychosocial determinants are affecting these concepts in health care providers. This article also explores whether there are differences in relationships between these concepts, and how these concepts are interrelated. The study focussed on the following psychosocial determinants: (a) ethnocentric attitudes and (b) intercultural capabilities. The latter concept is drawn from the four-dimensional construct of intercultural intelligence.

**Methods:** A survey was conducted in a health care student population ( $N = 364$ ). In addition to classic survey questions, behavioural intentions were measured through the use of eight vignettes comprising situations characterised by diversity in health care.

**Results:** Regression analyses show that ethnocentric attitudes were negatively associated with diversity sensitive task perception and behavioural intentions. Interestingly, we found no significant relationship between cognitive intercultural capabilities (IC) and diversity sensitivity. Motivational- and behavioural intercultural capabilities were significantly associated with diversity sensitive task perception and behavioural intentions. Motivational IC had a stronger relationship with task perception. Behavioural IC had a stronger relationship with behavioural intentions. Adding diversity sensitive task perception in a supplementary regression model as an independent variable on behavioural intentions caused a shift in associations. The significant association between motivational IC and behavioural intentions disappeared, and a significant association between diversity sensitive task perception and diversity sensitive behavioural intention appeared.

**Conclusion:** Diversity education should increasingly focus on diminishing ethnocentric attitudes and encouraging behavioural IC and motivational IC in health care students. The paper also suggests two theoretical hypotheses. Firstly, metacognitive IC is a concept strongly related to two IC: motivational IC and behavioural IC. Secondly, the relationship between motivational IC and behavioural intentions is fully mediated by diversity sensitive task perception. Further research that substantiate these theoretical hypotheses is recommended.

## Background

In an increasingly diverse world diversity education in health has gradually gained importance, principally because ethnic minority patients continue to face disparities in health care access and treatment [1–7]. The European Union is increasingly characterized by superdiversity or “diversity within diversity” [8]. As a prime example, Belgium already has a long history of migration that is mainly characterised by migrant workers from Italy, Poland, Turkey, and Morocco [9]. However, due to several international events including the refugee crisis in 2015, Belgium received an additional large influx of refugees from across the world. The Commissioner General for Refugees and Stateless Persons reported that in 2020, 27,742 persons applied for international protection in 2019, which is an increase of 18% compared to 2018, and an increase of 41% compared to 2017 [10]. In order to effectively meet the needs of superdiverse societies, scholarship calls for more research on evidence-based practices regarding diversity education in health care [11,12].

The present study explores psychosocial mechanisms of diversity sensitive health care within a Belgian health care student population. Although psychosocial mechanisms such as the relationship between attitudes and behavioural intentions is widely acknowledged [13,14], distinctions in relationships between ethnocentric attitudes, intercultural capabilities, and diversity sensitive task perceptions and behavioural intentions has been less explored, and particularly, within the health care context. More precisely, this paper focusses on two aspects of diversity sensitive

care: diversity sensitive task perception, and diversity sensitive behavioural intentions; and explores which psychosocial mechanisms (i.e. ethnocentric attitudes, intercultural capabilities) influence these aspects of diversity sensitive care.

## **Diversity sensitivity in health care**

Diversity sensitivity is an adjusted and high-quality manner of providing care that is responsive to the needs, competencies, and expectations of individuals with ethnic diverse backgrounds [16,17]. Two often used operationalisations of diversity sensitive decision-making are task perception and behavioural intentions [18,19].

## **Diversity sensitive task perception**

Physicians who take up a diversity sensitive task perception follow a socially just and diversity responsive approach within their medical profession [16,20]. According to Paasch-Orlow [21] taking up a diversity sensitive task perception means that providing care should reach beyond a narrow biomedical perspective. Such task perception includes; (a) considering a patient's personal preferences when making medical decisions; (b) taking up a pluralistic viewpoint that is tolerant towards a range of different views and refrain from assuming that their patients share their own perspectives; (c) being conscious about disparities in health outcomes and feeling responsible to take actions to overcome health differences due to cultural differences. Studies have highlighted that although the International Code of Ethics promotes equal care to all patients [22], when push comes to shove many physicians seem to prioritise medical principles over diversity sensitive care and principles [21,23,24].

## **Diversity sensitive behavioural intentions**

Diversity sensitive behavioural intentions are tendencies in which respondents are more or less likely to act in diversity responsive ways during various healthcare-related situations [25]. Diversity sensitive behavioural intentions of physicians directly relate to responsive medical decision-making and interpersonal communication in the consultation room [25]. Studies indicate that behavioural intentions are strong predictors of human behaviour [13,14,18,19].

## **Psychosocial mechanisms**

This study explores which psychosocial mechanisms (i.e. ethnocentric attitudes, intercultural capabilities) influence which aspects of diversity sensitivity (i.e. task perception, behavioural intentions).

## **(Ethnocentric) attitudes**

Attitudes are the most common indicators of someone's judgments and intentions [18,19]. Sarto et al. [26] and van Ryn [27] pioneered the relationship between health care professional's attitudes towards EM-patients, their behavioural intentions, and their consultation behaviours. More precisely, both authors argue that health providers' attitudes and beliefs about EM-patients influence their medical decision-making (e.g., diagnosis, treatment, referral, case disposition) and interpersonal communication (e.g., participatory communication style, warmth, information-giving, question-asking). These findings are substantiated by other studies. For instance, it has been shown that Caucasian physicians reported greater clinical uncertainty in diagnosing depression amongst Afro-American compared with

Caucasian patients [28]. Other studies have identified the negative effect of physicians' attitudes towards EM on patient-centred communication; they are more likely to dominate the conversation in intercultural consultations, and reported difficulties with interpreting emotional cues of EM-patients [16,29–31]. While research has already shown these behavioural differences, it is now important to open up the black box as to *why* physicians act this way. Only when we are aware of the underlying mechanisms, can we find ways to combat these ethnic differences in communication and treatment. van Ryn and Fu [23] claim that physicians' attitudes towards EM-patients influence whether they are more or less likely to take up a diversity sensitive task perception, which results in flawed medical decision-making. Nevertheless, there is a lack of empirical evidence that identifies this judgemental process of taking up a diversity sensitive task perception as a mediator between attitudes and medical decision-making. Hence, it is of great importance to further elaborate on the effect of negative attitudes towards EM-patients on diversity sensitive task perception and behavioural intentions. A particular operationalization of negative attitudes towards EM is ethnocentrism [32]. Ethnocentrism can be described as a worldview in which an individual has a strong belief in the inherent superiority of one's own ethnic group or culture [32,33]. Ethnocentrism relates to social categorisation, which contributes to the formation of prejudices, in- and-outgroup thinking and diminished levels of general trust in society [32,34,35]. While ethnocentrism is an important concept for understanding the effect of negative attitudes towards EM on diversity sensitivity, it has never been explored in a health care (student) population.

## Intercultural capabilities

Understanding the effect of attitudes on diversity sensitivity insufficient to explain all variances in diversity sensitive behaviours [14,36–38]. According to Dovidio and colleagues [36], automatically activated attitudes and biases result in discriminatory actions when persons lack the motivation or cognitive resources to monitor and control their actions. Such motivational and cognitive processes have also been defined as Intercultural Capabilities (IC), which is a person's perception of his/her capability to function effectively, especially in situations where sensitivity to diversity is important [38–41]. IC are often operationalized as intercultural intelligence [38,39]. IC comprise four dimensions to function effectively in intercultural settings: cognition, metacognition, motivation, and behaviour, which will be discussed in more detail below [38–41].

*Cognitive intercultural capabilities.* The cognitive dimension refers to the knowledge persons have about diversity, cultural institutions (e.g., norms, practices and conventions) and inequalities [38,40]. Such knowledge and understanding is essential for making valid judgments in culturally diverse settings [38]. The literature review found theoretical and empirical underpinnings for this relationship between intercultural knowledge and diversity sensitivity in the health care context [25,42,43]. However, certain studies indicate that cognition not necessarily has a significant effect on intercultural efficacy because there is a gap between knowledge generation and the practical implementation [44,45]. Hence, further studies are required.

*Metacognitive intercultural capabilities.* The metacognitive dimension considers to which extent people are conscious of their intercultural experiences, and can critically reflect upon the processes they use to acquire and understand intercultural knowledge [38,40]. Individuals with high metacognitive capabilities are more aware of the impact of their own cultural beliefs and behaviours and are more critical about their interpretation of intercultural situations [38,46]. This provides theoretical evidence for assuming that medical professionals who are more critically conscious are also more likely to take up a diversity sensitive task perception because they feel morally responsible to adjust their behaviour in a diversity sensitive way [15]. However, we found no empirical evidence on this relationship within a health care context.

*Motivational intercultural capabilities.* The motivational dimension refers to people's interest and confidence to interact in intercultural environments [38,40]. To take up diversity sensitive task perceptions and behavioural intentions, a person should feel motivated and agentic, which means that he/she has a sense of control that might facilitate goal achievement (Van Dyne et al., 2012: 303)[38]. Interestingly, Fazio [47] has identified motivation as an important mediator between attitudes and behaviours. He also found that when persons are motivated, they are more likely to start a deliberative process before acting. This deliberative process involves contemplating about one's personal attitudes, prejudices, and frame of reference. When motivation is lacking, behaviours are more likely to stem directly from automatic evaluations which can be flawed by ethnic biases [47]. Hence, motivation seems an important aspect for diversity sensitivity, also with regard to physician-patient communication and medical decision-making. A few studies have related self-efficacy or the confidence in acting in intercultural situations to concepts of diversity sensitivity in the health care context [42,48,49]. However, the relationship between motivation and diversity sensitivity in the health care context, remains understudied.

*Behavioural intercultural capabilities.* The behavioural dimension consists of a person's perceived behavioural ability to verbally and non-verbally adjust to intercultural situations [38,40]. This behavioural ability draws on a flexible repertory of internalised behavioural responses suited to a variety of situations, as well as the ability to modify one's behaviour according to the characteristics of a specific interaction or a particular context [39,40]. Van Dyne et al. [38] claim that individuals with high behavioural IC have a high sense of commitment to adjust their communication and behavioural manners to intercultural situations. This study investigates what weight a person's repertory of internalised behavioural responses has on diversity sensitivity in the health care context. To date, training programmes in diversity sensitivity in health care have been focussing on behavioural outcomes (skills) [45,50]. The mediation-effect of cognitive behavioural intercultural capabilities on diversity sensitivity in the health care context remains understudied. Insights in this mechanism may contribute to a deeper understanding of (un)succesfull intercultural skills-development [38].

## Hypotheses

Based on our literature findings we suggest that ethnocentric attitudes are negatively associated with health care students' diversity sensitive task perceptions and behavioural intentions. We also suggest that intercultural capabilities are positively associated with health care students' diversity sensitive task perceptions and behavioural intentions. Lastly, we suggest that diversity sensitive task perception and behavioural intentions are interrelated, because they are both operationalizations of diversity sensitive decision-making [18,19]. These hypotheses are shown in figure 1.

## Method

### Procedures

All students in the preparatory study program for the Master in Health Promotion, in Health Care Management and Planning, or in Social Work, and all students in the second year of the undergraduate medicine programme were invited to fill in an online survey. The survey was administered before the start of the mandatory course 'Health and Society' and the aggregated data were used as input for the lessons on disparities in health and health care. All students received a link to the questionnaire that allowed them to complete the survey at a convenient moment in April 2020. Participation in the survey was voluntary. All students signed an informed consent form at the beginning of the survey and they could indicate whether their data could be used for scientific purposes. A total of 519 students

were invited to complete the survey and the response rate of those consenting for their data to be included in the research was 70% ( $N = 364$ ). The survey took 30-45 minutes to complete. Approval of the ethical committee of the University Hospital was obtained on 22/04/2020 (B.U.N.: B6702020000083).

## Participants

The demographic characteristics of the sample are reported in table 1. Nearly all students ( $n = 343$ ; 94,3%) grew up in a family that had an income that could be characterised as average ( $n = 159$ ; 43.7%), or above average ( $n = 172$ ; 47.3%). The total sample consisted predominantly of native students; with only 28 out of 364 students (7.6%) having a grandmother born outside Belgium.

## Measures

### *Ethnocentric attitudes*

Ethnocentric attitudes were assessed with six items adapted from the Ethnocentrism scale of the European social survey [33]. The scale measures respondents' overall positive/negative perception of EM and migration. The items were assessed on a 10-point numeric Likert Scale whereby respondents indicated to what extent they believe immigrants make the country a worse or better place to live (e.g., *"The country's cultural life is undermined or enriched by immigrants."*). The mean score of the re-scaled scale (0 = *not ethnocentric*, 10 = *highly ethnocentric*) is presented in Table 2. For the current sample, the reliability of the scale is good:  $\alpha = .81$ .

### *Intercultural Capabilities (IC)*

Intercultural Capabilities have commonly been operationalised within the Multidimensional Model of Cultural Intelligence [38,41]. The four-factor construct includes metacognitive, cognitive, motivational, and behavioural dimensions. Each dimension consists of six items which are rated on a 5-point Likert scale whereby respondents indicated to what extent they agree. An example of an item from the Cognitive dimension is *"I can describe what is important in various religions."*; from the Metacognitive dimension is *"Before I meet people from another culture for the first time, I think about how I should act (for instance how I should greet them)"*; from the Motivational dimension is *"I think it's exciting to interact with people from other cultures."*; from the Behavioural dimension is *"When I talk to people from another culture, sometimes I adapt what I say (for instance regarding which topics I bring up)"*. The mean scores of the factors (1 = *low IC*, 5 = *high IC*) are presented in Table 2. The internal consistency of all dimensions varied from acceptable-good: Cognitive Intercultural Capabilities (IC) ( $\alpha = .87$ ); Metacognitive IC ( $\alpha = .76$ ); Motivational IC ( $\alpha = .79$ ); and Behavioural IC ( $\alpha = .68$ ).

### *Physicians' task perception and ideas on cultural differences in health and health care*

To assess health care students' diversity sensitive task perception, we used a subscale entitled *"Physicians' task perception and ideas on cultural differences in health and health care"* from the EMP-III [51]. It measures respondents' ideas on the extent to which physicians should be aware of diversity sensitive topics, and their diversity sensitive responsibilities and behaviours during intercultural consultations [51]. The scale consists of 10 items measuring specific stands on diversity sensitivity in health care (e.g., *"physicians should be aware of the cultural identity of each patient"*; *"physicians have a moral duty toward taking care of refugees"*), which are rated on a 5-point Likert scale whereby respondents indicated to what extent they agree. The mean score of the scale (1 = *low diversity sensitive task*

*perception*, 5 = *high diversity sensitive task perception*) is presented in Table 2. The internal consistency of the scale was acceptable:  $\alpha = .73$ .

#### *Diversity sensitive behavioural tendencies in the health care context*

To assess diversity sensitive behavioural intention, we utilised eight vignettes [25]. These vignettes comprise various intercultural scenario's that can occur within a health care context (e.g., during a consultation, related to colleagues, related to health care management) [25]. These vignettes measure students' diversity sensitive behavioural intentions during these intercultural scenario's [25]. More precisely, students were presented with eight critical incidents characterised by diversity and had to indicate what they were most likely to do in that situation from five response options. Each option was scored based upon a pre-determined scoring key obtained through George's validation study [25] varying from 1 = *least diversity sensitive response* to 5 = *most diversity sensitive response*. This validation of response categories was based upon theory and focus groups with various types of health care workers based in the United Kingdom [25]. An example is as follows:

"You have been asked by a GP to see a young Chinese girl who has come in with her family. She is suffering from epilepsy. During the conversation, it becomes obvious that the parents do not see this as a problem. Their perception is that she is blessed by the Gods. What are you most likely to do in this situation?"

Students were presented the following response categories:

- (A) Do not treat the patient because it is inappropriate to question their beliefs (value 1);
- (B) Suggest to them to see a Chinese doctor as they would be more suitable and appropriate to assess the patient with her family (value 2);
- (C) Explore the parents' beliefs and the young girl's, explaining the benefit of using Western medicine and the consequences of not using it (value 5);
- (D) Discuss the case with your colleagues and act on their advice (value 4);
- (E) Report the incident as a safeguarding issue if you feel the parents are not acting in the best interests of the patient (value 3) (George, 2017: 244).

The mean score of this scale is presented in Table 2. Cronbach's alpha of the scale was .46. Patterson and colleagues [52] claim that instruments such as vignettes usually have low alpha scores due to the multidimensional nature of each item (cf. each item targets numerous performance dimensions or constructs). So, while the Cronbach's alpha cannot give a good indication of the vignette's reliability, we nonetheless report it for reasons of consistency and clarity.

#### *Data Analysis*

We conducted two multiple linear regression analyses with SPSS 26.0. Firstly, we took "diversity sensitive task perception" as a dependent variable. We investigated the effect of ethnocentrism and the four dimensions of CIC on this variable. Secondly, we took "diversity sensitive behavioural intentions" as the dependent variable. We investigated the effect of ethnocentrism, the four dimensions of CIC, and diversity sensitive task perception on behavioural intentions.

In addition to standard covariates such as sex, age, and ethnicity (measured through country of birth grandmother), we also controlled for the variables: weeks of work experience (continuous variable), type of health care education (1 = *Medicine*; 2 = *other health care education*), and the strength of contact with EM (1 = *I have only anonymous contacts with EM in public spaces*; 2 = *I have EM-acquaintances 'e.g., a neighbour, friend of a friend'*; 3 = *I have EM-friends or close colleagues*; 4 = *I have close EM-friends or family members*).

We controlled for the strength of contact with EM expecting that students who reported stronger contact with EM would respond in more diversity sensitive ways, as suggested by the contact theory and empirical studies [53–55]. We controlled for weeks of work experience as the literature seems inconsistent about the effect of work experience on diversity sensitivity. A recent study, for instance, found that work experience did contribute to higher transcultural self-efficacy scores [56]. In contrast, Cooper and Brathwaite [57] found that less experienced nurses (with higher educational levels) had higher cultural knowledge and cultural competence rates. Lastly, we controlled for type of health care education as a study has shown that Medicine students have higher professional identity rates compared to other social care students (e.g., social workers) [58]. Professional identity development comprises an arsenal of attitudes/behaviours/norms of members of one professional group and how they are viewed by another professional group [58]. These norms might interfere with, for instance, their diversity sensitive task perception.

## Results

### Descriptives and bivariate analyses

Table 2 and 3 report on the descriptive statistics for the dependent and main independent variables and the correlation coefficients of the study variables.

As shown in Table 3, health care students' diversity sensitive behavioural intentions were positively correlated with diversity sensitive task perception ( $r = .30, p = .000$ ), ethnocentric attitudes ( $r = -.27, p < .000$ ), motivational IC ( $r = .24, p = .000$ ), behavioural IC ( $r = .25, p = .000$ ), and metacognitive IC ( $r = .16, p = .002$ ). Furthermore, health care students' diversity sensitive task perception was positively correlated with ethnocentric attitudes ( $r = -.44, p = .000$ ), motivational IC ( $r = .47, p = .000$ ), behavioural IC ( $r = .32, p = .000$ ), and metacognitive IC ( $r = .33, p = .000$ ). There was no significant correlation between the dependent variables (i.e. diversity sensitive behavioural intentions and task perception) and cognitive IC, age, and weeks of work experience.

### Regression analyses for diversity sensitive task perception

Before interpreting the regression models, the assumptions on linearity, no multicollinearity, homoscedasticity, independent error-terms, and normality have been tested and were upheld in the analysis. An analysis of standard residuals was carried out on the data to identify outliers, which led to the exclusion of three (out of 364) respondents.

As presented in Table 4, multiple linear regression was conducted to predict health care students' diversity sensitive task perception based upon ethnocentric attitudes and the four dimensions of IC.

In the first model, we included the main variables (being ethnocentrism, motivational IC, behavioural IC, cognitive IC, metacognitive IC) to assess this hypothesis. The results show that ethnocentric attitudes in health care students were negatively associated with their diversity sensitive task perception. Health care students who scored highly on motivational- and behavioural intercultural capabilities, scored also highly on diversity sensitive task perception. There was no significant association between health care students' cognitive- and metacognitive intercultural capabilities and their diversity sensitive task perception.

In the second model, we included the control variables (i.e. sex, age, country of birth grandmother, contact with EM, weeks of work experience, type of health care education) to check whether the associations remained, diminished, or disappeared. The associations in model 1 remained. The model indicated that men showed a lower level of diversity sensitive task perception compared to women, while no other control variables had significant associations with diversity sensitive task perception.

After controlling for the control variables in the second model, we created a final parsimonious model by only retaining the significant associations. The final model explained 35% of the variation in diversity sensitive task perception ( $R^2 = .35$ ).

### **Regression analyses for diversity sensitive behavioural intentions**

As presented in Table 5, multiple linear regression was conducted to predict health care students' diversity sensitive behavioural intentions based upon ethnocentric attitudes, the four dimensions of IC, and diversity sensitive task perception.

In the first model, we included the main variables (being ethnocentrism, motivational IC, behavioural IC, cognitive IC, metacognitive IC) to assess the hypothesis. In line with our hypothesis, ethnocentric attitudes in health care students were negatively associated with their diversity sensitive behavioural intentions. Health care students who scored higher on motivational- and behavioural intercultural capabilities, scored also higher on their diversity sensitive behavioural intentions. In line with the results on diversity sensitive task perception (see Table 4) and in contrast to our hypothesis, there was no significant relationship between health care students' cognitive- and metacognitive intercultural capabilities and their diversity sensitive behavioural intentions.

In the second model, we included diversity sensitive task perception as an independent variable on diversity sensitive behavioural intentions. This addition caused a shift in associations. The associations between ethnocentric attitudes and behavioural IC with behavioural intentions remained. However, the significant association between motivational IC and behavioural intentions disappeared, and a significant association between diversity sensitive task perception and diversity sensitive behavioural intention appeared.

In the third model, we included the control variables (i.e. sex, age, country of birth grandmother, contact with EM, weeks of work experience, type of health care education) to check whether the associations remained, diminished, or disappeared. Adding the control variables did not substantially change the significant associations from the earlier model.

After controlling for the control variables in the third model, we created a final parsimonious model by only retaining the significant associations. The final model explained 14% of students' variation in their diversity sensitive behavioural intentions ( $R^2 = .14$ ).

## **Discussion**

This study explored how psychosocial mechanisms like ethnocentrism and intercultural capabilities contribute to health-care students' diversity sensitive task perception and diversity sensitive behavioural intentions. Insights into these underlying mechanisms will help to improve diversity education in health care and can ultimately lead towards more diversity sensitive and better health care for migrants.

The first hypothesis that ethnocentric attitudes in health care students negatively affect their diversity sensitive task perception and behavioural intentions, was confirmed by our data. This is in line with other research that underscores

the relationship between health professionals' attitudes towards EM-patients and their moral reasoning of rejecting a particular treatment or suggesting an adjusted treatment plan for EM [23]. Also, the impact of flawed judgements on the provision of diversity sensitive care has been explored in other studies: it directly affects physicians' medical decisions (e.g., diagnosis, treatment, referral, case disposition [23,58–62], and communication styles [64–66]. However, this is one of the first studies that explored underlying mechanisms such as the relationship between ethnocentric attitudes and diversity sensitive task perception and behavioural intentions. Most individuals are unaware of these psychosocial processes and how these effect their behaviours [67,68]. Also within the health care context, one study found that the majority of health professionals are either unaware about their share of responsibility, or they directly deny their potential bias during consultations when asked about explanations for racial disparities in health care [24]. Consequently, it is crucial to invest in educational training that makes healthcare professionals aware of unconscious psychological processes that affect diversity sensitive care provision and equip them to counteract their own ethnic biases [24,59]. In line with Muntinga et al. [15], we encourage diversity education that fosters self-reflection and critical consciousness over students own frame of references and behaviours.

The second hypothesis that IC (measured in four dimensions) positively affect health care students' diversity sensitive task perception and behavioural intentions, is also confirmed by our data. However, only two (i.e. motivational IC and behavioural IC) out of four IC-factors were significantly associated with health care students' diversity sensitive task perception and behavioural intentions in multivariate analyses. Noteworthy, the significance of the relationship between motivational IC and diversity sensitive behavioural intentions disappeared after diversity sensitive task perception was added as an independent variable in a predictive model (cf. Table 4, model 2). Hence, the relationship between motivational IC and behavioural intentions may be fully mediated by task perception. Consequently, we argue that motivational IC directly influence task perception, and indirectly influence behavioural intentions. This is an interesting finding to be further explored, as we could not identify any other study reporting on this. Fazio [47] claims that motivated individuals are more likely to start a deliberative process before acting, which partly explains why motivational IC is associated with a diversity sensitive task perception. Hence, working with students on their motivation and confidence to act in diversity sensitive ways, may contribute to counteracting the consequences of automatically generated attitudes and biases [23,30,36,47,69,70].

Behavioural IC seem to be a strong element in both regression models as it is significantly associated with diversity sensitive task perception and behavioural intentions. The relationship between behavioural IC and behavioural intentions is also underscored by Van Dyne et al., [38] who claim that individuals who have developed advanced intercultural behavioural capabilities are conscious about the need of diversity sensitive health care and committed to adjusting their communication- and behaviour manners to intercultural situations. Hence, our study suggests that including behavioural capabilities in diversity sensitive training modules might be especially powerful. We recommend further studies on Behavioural IC. Where Park and colleagues [71] underline the importance of training intercultural communication with physicians, our results elaborate on this insight by suggesting that broad intercultural behavioural competencies are important for physicians to both consider diversity sensitive care as a part of their task-set and intend to behave in diversity sensitive ways.

Metacognitive IC was significantly associated with task perception in bivariate analyses, but not in multivariate regression analyses. Further analyses showed that the presence of both motivational IC and behavioural IC within one model outweighed significant relationships with metacognitive IC and diversity sensitive task perception. Further studies should elaborate on this finding.

Cognitive IC was neither bivariately nor multivariately associated with diversity sensitive task perception or intentions. The observation that we could not find significant relationships between cognitive IC and health care

students' diversity sensitive task perception/intentions, is in line with previous studies that highlight difficulties with implementing intercultural knowledge in practice [44,45]. An implication is that diversity education should reach beyond (intercultural) knowledge generation. This can be a reassurance for health professionals, as they do not need to know all cultural values and norms across cultures to be able to provide diversity sensitive care.

A limitation of this study is that it provides data of a single country at a single point in time. We recommend much more empirical testing in order to substantiate the hypothesized model across settings. Furthermore, there are some limitations regarding the measures. For instance, we have not measured health care students' actual behaviour (such as their interpersonal communication and medical decision-making). Subsequent research will be required to test the complete model including attitudes, IC, task perception, intentions and behaviour. Another limitation is that studying the wide arsenal of external confounding factors (e.g., institutional and organisational factors such as organisational culture, resources, facilities, time pressure) that interfere with physicians intercultural competencies [56,72,73] was not possible within this article due to our focus on health care students. However, we encourage future studies that elaborate on the intersections of psychosocial processes and factors related to health care institutions as this would provide us with interesting insights on how to organise these settings to be more conducive to /to promote more diversity-sensitive care.

## Conclusions

This study focuses on the effects of psychosocial mechanisms like ethnocentrism, and intercultural capabilities (IC) on diversity sensitivity in health care. Findings imply that health care students who have lower scores on ethnocentrism and have higher scores on behavioural IC are more diversity sensitive -they are more likely to take up a diversity sensitive task perception and are more likely to act in diversity sensitive ways (measured through the use of eight vignettes). Findings also suggest that students who are motivated to engage in intercultural interactions are more likely to take up a diversity sensitive task perception, which indirectly influences their intentions to act in diversity sensitive ways. It turned out that the knowledge-related component of intercultural capabilities (i.e. cognitive capabilities) was not significantly related to either health-care students' diversity-sensitive task perception or intentions. A key recommendation this study makes is that diversity educators in health care should increasingly focus on diminishing ethnocentric attitudes and encouraging behavioural IC and motivational IC in health care students. The paper also suggests two theoretical hypotheses. Firstly, metacognitive IC is a concept strongly related to two IC: motivational IC and behavioural IC. Secondly, the relationship between motivational IC and behavioural intentions is fully mediated by diversity sensitive task perception. Further research that substantiates these theoretical hypotheses is recommended. In line with Van Dyne et al. [38], we argue that taking up different dimensions of intercultural capabilities in diversity sensitive training programmes may increase the ability to realise customised feedback and supervision of health care students and professionals.

## Abbreviations

EM: Ethnic Minorities

IC: Intercultural Capabilities

GP: General Practitioners

## Declarations

**Ethics approval and consent to participate**

Before the start of the online survey, the Ethical Committee of the University Hospital reviewed the proposed project regarding observance of the Data Protection Law and gave permission to conduct the study on 22/04/2020 (B.U.N.: B6702020000083). Participation in the survey was voluntary. All students signed an informed consent form at the beginning of the survey and they could indicate whether their data could be used for scientific purposes.

### **Consent for publication**

Not applicable.

### **Availability of data and material**

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

### **Competing interests**

The authors declare that they have no competing interests.

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### **Authors' contributions**

L.V.R. wrote the main manuscript text. S.S. was in charge of the data gathering process in Qualtrics and contributed to the choice of the scales. W.V. gave statistical advice. R.G. gave permission to use her vignettes for capturing diversity sensitive behavioural intentions in health care students. All authors (i.e. L.V.R., S.S., W.V., R.G., S.D.M., E.D., S.W.) reviewed the manuscript.

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## Tables

**Table 1** Sample socio-demographics

<b>Variable</b>	<b>n (%) All students (N=364)</b>	<b>n (%) Medicine students ( N=230)</b>	<b>n (%) Other Health Care students ( N=134)</b>
<b>Educational programme</b>			
Medicine	230 (63.2)	230 (100)	/
Health Care Management and Policy	69 (19.0)	/	69 (51.49)
Health Promotion	60 (16.5)	/	60 (44.78)
Master in Social Work	5 (1.4)	/	5 (3.73)
<b>Sex</b>			
Female	271 (74.5)	155 (67.4)	116 (86.6)
Male	93 (25.5)	75 (32.6)	18 (13.4)
<b>Age</b>			
	<i>Mean (Min-Max; SD)</i>	<i>Mean (Min-Max; SD)</i>	<i>Mean (Min-Max; SD)</i>
	22.03 (19-47; 3.27)	20.55 (19-30; 1.36)	24.57 (22-47; 3.98)
<b>Weeks of work experience</b>			
	35.68 (0-1152; 116.28)	3.21 (0-72; 7.13)	91.40 (0-1152; 178.51)
<b>Country of birth</b>			
Belgium	355 (97.5)	224 (97.4)	131 (97.8)
European country (other than Belgium)	6 (1.7)	3 (1.2)	3 (2.2)
Non-European country	3 (0.9)	3 (1.2)	125 (93.3)
<b>Country of birth (grandmother)</b>			
Belgium	336 (92.3)	211 (91.7)	9 (6.7)
Outside Belgium	28 (7.6)	19 (8.3)	7 (5.2)
<b>Household income category</b>			
Lowest household income category	4 (1.1)	2 (0.9)	79 (59.0)
Beneath average	17 (4.7)	10 (4.3)	46 (34.3)
Average household income	159 (43.7)	80 (34.8)	/
Above average	172 (47.3)	126 (54.8)	/
Highest household income category	12 (3.3)	12 (5.2)	36 (26.9)
<b>Contact with ethnic minorities (EM)</b>			
			46 (34.3)

I have only anonymous contacts with EM in public spaces	94 (25.8)	58 (25.2)	
			28 (20.9)
I have EM-acquaintances (e.g., a neighbour, friend of a friend)	122 (33.5)	76 (33.0)	
			24 (17.9)
I have EM-friends or close colleagues			
I have close EM-friends or family members	87 (23.9)	59 (25.7)	
	61 (16.8)	37 (16.1)	

EM = Ethnic Minorities

**Table 2** Descriptive statistics for the dependent and main independent variables

	Mean	SD
<i>Independents</i>		
Ethnocentrism*	4.59	1.38
Motivational IC	3.82	0.54
Behavioural IC	3.53	0.52
Cognitive IC	2.82	0.66
Metacognitive IC	3.48	0.60
<i>Dependents</i>		
Diversity sensitive task perception	4.05	0.44
Diversity sensitive behavioural intentions	4.32	0.43

N = 361

IC = Intercultural Capabilities

\*In contrast to the other variables which are scored on a 5-point Likert Scale, is this the only variable scored on a 10-point Likert Scale

**Table 3** Correlation coefficients of the study variables

	DS behavioural intentions	DS task perception	EC	Mo-IC	B-IC	C-IC	Me-IC	Age	Work experience
DS behavioural intentions	1								
DS task perception	.30***	1							
Ethnocentrism	-.27***	-.44***	1						
Motivational IC	.24***	.51***	-.48***	1					
Behavioural IC	.25***	.33***	-.21***	.30***	1				
Cognitive IC	-.02	.10	-.10	.27***	.19***	1			
Metacognitive IC	.16**	.34***	-.21***	.38***	.59***	.23***	1		
Age	.09	-.08	.01	-.11*	-.05	-.05	-.13*	1	
Weeks of work experience	-.08	-.02	.04	-.08	-.05	-.05	-.13*	.85***	1

*N* = 361

DS = Diversity Sensitive, IC = Intercultural Capabilities, EC = Ethnocentrism, Mo-IC = Motivational IC, B-IC = Behavioural IC, Me-IC = Metacognitive IC

\**p* < .05, \*\**p* < .005, \*\*\**p* < .001

**Table 4** Multilinear regression models with diversity sensitive task perception scores as the dependent variable

Mains	Model 1		Model 2		Model 3	
	Stand. B	t	Stand. B	t	Stand. B	t
		11.78		7.20		12.27
Ethnocentrism	-.23***	-4.66	-.23***	-4.49	-.23***	-4.60
Motivational IC	.34***	6.37	.31***	5.72	.34***	6.71
Behavioural IC	.14*	2.60	.12*	2.25	.17***	3.68
Cognitive IC	-.06	-1.37	-.05	-1.12		
Metacognitive IC	.09	1.64	.09	1.68		
<b>Control variables</b>						
Sex (female)			-.13**	-2.87**	-.11*	-2.44*
Age			-.10	-.98		
Country of birth grandmother (other)			-.04	-.78		
Contact with ethnic minorities (anonymous)						
<i>Acquaintances</i>			-.05	-.84		
<i>Colleagues</i>			.05	.97		
<i>Close friends</i>			-.03	-.53		
Weeks of work experience			.12	1.40		
Type of health care education (medicine)			-.07	-1.18		

N = 361

IC = Intercultural Capabilities

Reference category of dummy variables indicated between brackets

\* $p < .05$ , \*\* $p < .005$ , \*\*\* $p < .001$

**Table 5** Multilinear regression models with diversity sensitive behavioural intentions scores as the dependent variable

<b>Mains</b>	Model 1		Model 2		Model 3		Model 4	
	Stand B	t						
		18.37		14.62		7.51		15.25
Ethnocentrism	-.18**	-3.19	-.14*	-2.42	-.15*	-2.64	-.16**	2.96
Motivational IC	.14*	2.39	.10	1.59	.07	1.14		
Behavioural IC	.22***	3.57	.20**	3.26	.21**	3.42	.17**	3.24
Cognitive IC	-.10	-1.85	-.09	-1.73	-.09	-1.67		
Metacognitive IC	-.05	-.71	-.06	-.93	-.08	-1.67		
Diversity sensitive task perception			.15*	2.56*	.15*	2.40	.17**	3.03
<b>Control variables</b>								
Sex (female)					.00	.14		
Age					.00	.03		
Country of birth grandmother (other)					.08	1.49		
Contact with ethnic minorities (anonymous)					.07	1.22		
<i>Acquaintances</i>					.03	.48		
<i>Colleagues</i>					.10	1.56		
<i>Close friends</i>					.05	.72		
Weeks of work experience					-.07	-.72		
Type of health care education (medicine)					-.05	-.76		

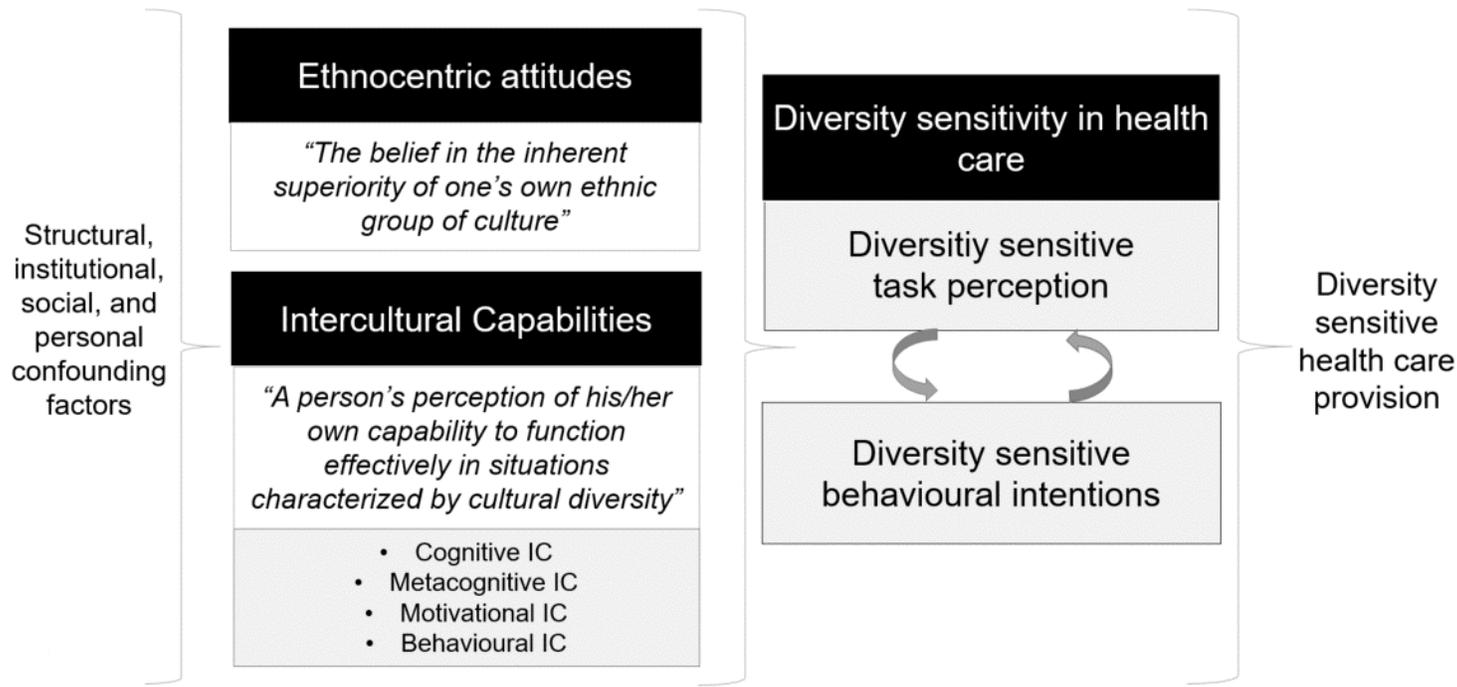
N = 361

IC = Intercultural Capabilities

Reference category of dummy variables indicated between brackets

\* $p < .05$ , \*\* $p < .005$ , \*\*\* $p < .001$

## Figures



**Figure 1**

A conceptual model for understanding the relationships between ethnocentric attitudes, cognitive intercultural capabilities, and diversity sensitivity in health care