Antecedents of Ethical Decision Making by physician assistants and nurse practitioners:

VALIDATION OF INSTRUMENTS AND THEIR APPLICATION

Luppo Kuilman

Antecedents of Ethical Decision Making by physician assistants and nurse practitioners: validation of instruments and their application

Luppo Kuilman

Kuilman, L.

Antecedents of Ethical Decision Making by physician assistants and nurse practitioners: *validation of instruments and their application*

PhD thesis, University of Groningen, the Netherlands

Cover painting: Erlinda Duran, MD
Lay-out: Publiss | www.publiss.nl
Print: Ridderprint | www.ridderprint.nl

The research described in this thesis was performed at Research Institute Science in Healthy Ageing and healthcaRE (SHARE) of the University Medical Center Groningen, University of Groningen, within the research program Health Psychology Research (HPR).

Financial support for publication and printing of this thesis was kindly provided by:

- **Hanze University of Applied Sciences, Groningen**, School of Health Care Studies, MSc Physician Assistant program, Groningen, The Netherlands;
- **University of Groningen, University Medical Center Groningen,** Research Institute SHARE, Groningen, The Netherlands.
- **Northern Arizona University**, Department of Physician Assistant Studies, College of Health and Human Services, Phoenix BMC, Arizona, USA.

rijksuniversiteit groningen

Antecedents of Ethical Decision Making by physician assistants and nurse practitioners: validation of instruments and their application

Proefschrift

ter verkrijging van de graad van doctor aan de
Rijksuniversiteit Groningen
op gezag van de
rector magnificus prof. dr. C. Wijmenga
en volgens besluit van het College voor Promoties.

De openbare verdediging zal plaatsvinden op

maandag 17 mei 2021 om 11.00 uur

door

Luppo Kuilman

geboren op 6 augustus 1976
te Winschoten

Promotor

Prof. dr. P.F. Roodbol

Copromotores

Dr. G.J. Jansen
Dr. L.B. Mulder

Beoordelingscommissie

Prof. dr. P.L.P. Brand
Prof. dr. P.U. Dijkstra
Prof. dr. A.A. De Bont

Paranimfen

Koos Meijer
Kees van Wijk

"Morality and values depend on the existence of conscious minds - and specifically on the fact that such minds can experience various forms of well-being and suffering in this universe..."

Sam Harris

Table of contents

CHAPTER 1

General Introduction

Given the Hippocratic Oath, it becomes clear that since ancient times the art of healing is something which not only includes knowledge and technical skills but constitutes a total cognition of professional behavior (Edelstein, 1943). Although dating back to about 400 years BC, nowadays medical practice is still imbued with the Oath's basic principle: 'primum non nocere,' literally, 'you shall not harm.' This core value of ethical care is connected to the following aspects: a) respecting the patient's autonomy, b) serving patients to their best interests by doing them justice, c) treating them with dignity and d) acting with transparency, which enables informed consent for the received care (Pellegrino, 2006). Once these aspects of ethical care are at risk of becoming jeopardized, either by the patient's self-determination or due to reaching the limits of medicine and its technology, one may speak of the emergence of a moral dilemma (De Haan, 2001). As soon as a moral dilemma emerges, some skills to solve the dilemma are necessary as an impetus of ethical decision making and good clinical practice.

Beholding the presumption that healthcare delivery is a moral enterprise, inherently moral dilemmas, and moral conflicts occur on a daily basis. For this, the overarching research question of this doctoral thesis is: "What factors influence healthcare personnel in dealing with moral dilemmas? In this thesis, I study the antecedents of ethical decision-making among two master's trained professionals, namely those of Physician Assistants and Nurse Practitioners, who both hold their own professional responsibility in treating patients.

1.1 Background of sampling Physician Assistants and Nurse Practitioners

Around the year 1995, a medical workforce shortage was predicted for the Dutch healthcare system. A solution was sought in medical task shifting by introducing nurse practitioners (NPs) and physician assistants (PAs) in the years 1995 and 2002, respectively, to support medical doctors in patient care. Both professionals are trained at the master's level but distinguish in their professional scope of practice. NPs, in the Netherlands are viewed as 'nursing specialists', who largely conduct medical tasks categorically arising from their domain of nursing practice, whereas PAs practice medicine in the full breadth of a medical specialty and are classified as a new type of medical provider. Both professions have acquired a legal foundation to practice autonomously, though in collaboration with a medical doctor (De Bruijn-Geraets et

al., 2018). With these Master-trained clinicians in place, both have their professional association and consequently, own code of professional conduct. Incorporated in these codes of conduct is the statement that NPs and PAs have knowledge about and know how to deal with ethical issues in practice. However, the manner in which both professionals (NPs and PAs) deal with ethical issues in their work-setting has neither been researched nor been reported about as such, and therefore became the populations of interest.

1.2 A plethora of Models on Ethical Decision-making

With regard to empirical studies in researching ethical decision-making, two landmark review papers were published and these were extensively cited since then. Both papers report on empirical literature concerning ethical decision-making, both however having two distinct timeframes of inclusion. Whereas O'Fallon and Butterfield reviewed the literature from 1996 to 2003, Jana Craft, in her report, included papers that were published between 2004 and 2011. (Craft, 2013; O'Fallon & Butterfield, 2013). With these papers spanning an impressive 15 year period, a similarly staggering number of empirical studies (respectively: n=174 and n=84) were included, accompanied by multiple theoretical models, containing numerous constructs of interests within these. Both the work of O'Fallon and Butterfield, as also Craft's paper, chose to categorize the literature by way of plausible constructs that represent the ethical decision-making process, namely: 1) awareness/recognition, 2) judgement/reasoning, 3) moral intent, and 4) behavior. Both reviews also provide insight into the many individual factors, such as age, gender, locus of control and many others, the function of which are dependent on these variables.

Even though more recent literature sheds a new light on ethical decision-making as being a rather more non-deliberate chain of processes including intuition, identity and biases (Moore & Gino, 2015), for this doctoral thesis the Four Component Model of Moral Behavior (FCM), however, serves as a foundation for the conducted research. For the simple reason of keeping in close connection with the amount of literature available, this doctoral thesis is predominantly influenced by the FCM (J. R. Rest, Thoma, & Bebeau, 1999), as well as by Albert Bandura's moral disengagement theory (Bandura, 1999) and some other antecedent constructs of ethical decision-making have been included since they were assumed to also explain ethical behavior. The rationale for extending the FCM will be further explained in the next paragraph.

1.3 James Rest's Four Component Model of Moral Behavior

The FCM is an extension of Kohlberg's model of Moral Development. Kohlberg's model (Kohlberg & Hersh, 1977) explains moral judgment. According to the level of one's moral judgment skill the model states from within that a person can be classified to be within one of the three major levels: (i) pre-conventional, (ii) conventional and (iii) post-conventional. Each of these levels is again divided into two stages. Reaching the post-conventional level of moral reasoning reflects principled conscience. Whereas Kohlberg's theory thus focuses on the assumption that "moral judgement" is the only process in the psychology of morality, James Rest suggests that three other essential components must be incorporated into the explanation of the ethical decision-making process. Therewith the FCM includes the following processes to explain moral behavior, namely: 1) moral sensitivity/awareness, 2) moral reasoning/judgement, 3) moral motivation and 4) moral courage/character. Each of these components reflects the latent or underlying psychological processes and were measured in this doctoral research with self-report measures, either translated into Dutch or developed as new Dutch instruments.

1.3.1 Conceptualization and operationalization of Moral Sensitivity

As soon as a moral dilemma arises, there is a need to recognize the conflict situation. The FCM's first component, moral sensitivity, is conceptualized as the first and essential precursor for moral behavior. Rest defines moral sensitivity as: "a combination of one's recognition of moral issues, and how one reacts and processes these issues from an affective perspective within a social context" (J. R. Rest, 1986). After James Rest introduced the FCM, many researchers in the field of moral psychology attempted to develop instruments measuring moral sensitivity. Nonetheless, it is apparent that not only are there a multitude of instruments being developed, but also a plurality of competing interpretations of the concept. In the literature, both moral sensitivity, as well as ethical sensitivity have been spotlighted. This becomes obvious in several of the works reviewing both the concept and instruments available for measuring either moral sensitivity or ethical sensitivity (Jordan, 2007; Weaver, 2007).

In a review by Bebeau, ethical sensitivity is defined as "the awareness of alternative courses of action, knowing cause-consequence chains of events in the environment, and how each could affect the parties concerned" (M. J. Bebeau, 2002). An important point made by Bebeau is that ethical sensitivity is embedded in a professional

setting, that is, knowing the regulations, codes of conduct, and how one applies one's professional values and norms, whereas, the alternative perspective of moral sensitivity is rather a pure intra-personal concept. This alternative perspective was introduced by Lützén and colleagues, grounded in a healthcare and nursing perspective (Lützén, Nordström, & Evertzon, 1995).

As part of her doctoral research, Lützén conducted a qualitative study (Lützén, Nordin & Brolin, 1994) as an impetus to generate items for the conceptualization and instrumentation of measuring moral sensitivity. Six categories were defined for the moral sensitivity construct. In their aforementioned 1994 study, Lützén, Nordin, and Brolin reported their first findings on the conceptualization and instrumentation of moral sensitivity. In this early stage of their work, the tested instrument was known as the moral sensitivity test (MST). The MST was administered among 79 nurses working in psychiatric practice. The MST included 35 pre-coded items covering the categories: interpersonal orientation, structuring moral meaning, expressing benevolence, modifying autonomy, experiencing conflict, and reliance on physician knowledge. Items were phrased as statements and answers, in Likert-type format, from totally disagree (=1) to totally agree (=7). The uneven distribution of items per category was assumed to be inevitable because of the theoretical overlap in statements. The latter supported the authors' assumption of the uni-dimensionality of the instrument. Five of the 35 items were excluded because they either correlated negatively or correlated low with the total score. The reliability, expressed by Cronbach's alpha, for the total scale was 0.64. To support the uni-dimensionality of the instrument, the items of the six categories were clustered into a subscale A and a subscale B, eliciting near equal estimates of reliability (subscale A: α=0.62 and subscale B: α=0.60). Even though a weak positive correlation was found between the subscales, a Pearson's correlation analysis for the subscales and the total score of the instrument revealed high positive correlation scores of 0.83 and 0.73, respectively. This positive correlation was not found in all categories and was therefore viewed as contradictory vis-à-vis the assumption of uni-dimensionality, in addition to the small sample size mentioned.

After the first study in 1994, Lützén and colleagues followed up with another study by measuring moral sensitivity among nurses working at two psychiatric clinics and two medical-surgical clinics. (Lützén, Nordstrom, & Evertzon, 1995) In this study, the test previously known as MST was baptized the "Moral Sensitivity Questionnaire" (MSQ). The final number of participants was 215, and there were no missing values among

the 30 items of the MSQ. According to the authors, an exploratory factor analysis demonstrated that the six categories defined earlier (1994) could be retained. Despite the "relatively low Cronbach's coefficient alpha for each category," the total scale elicited a Cronbach's alpha coefficient of 0.78. Furthermore, in this study, the authors maintained their position that the instrument was unidimensional, derived from their standpoint that "the total score can be seen as an indication of the respondent's attitude towards moral issues in nursing practice."

Following the measurement of moral sensitivity among nurses, the first "doctor's version" of the moral sensitivity questionnaire was developed and administered among psychiatrists (Lützén, Evertzon, & Nordin, 1997). This version of the MSQ was only slightly modified, for example, with the word "nurse" being replaced by "psychiatrist." As in the nursing studies, the MSQ survey among psychiatrists maintained the assumed categories – 1) interpersonal orientation, 2) structuring moral meaning, 3) expressing benevolence, 4) modifying autonomy, 5) experiencing moral conflict, and 6) confidence in medical knowledge. Nevertheless, the outcome for the reliability and validity of the MSQ psychiatrist version was worrisome, with a Cronbach's alpha of 0.64 for the scale. One plausible reason cited as justification for this lower internal consistency was ascribed to the fact that the MSQ initially had been developed on grounded theory effectuated through qualitative research and conducted among nurse samples and not among physicians. Key was the assumption of different levels of professional responsibility between nurses and physicians, thereby a different sensitivity to moral issues in daily practice.

Despite the somewhat lower reliability and validity, it was opted to use this doctor's version of the MSQ for this doctoral study. The reason for this is because we felt comfortable with the thought that the instrument measures what we purported to measure in terms of moral sensitivity among our sample, namely that of NPs and PAs. Also, the instrument aligned with the theorization of the concept, namely: "moral sensitivity is the contextual and intuitive understanding of the vulnerability of a person's situation and insight into ethical consequences of decisions made on behalf of the person." Therewith the instrument was deemed to fit as an appropriate indicator for one of the theoretical constructs within the "Four Component Model of Moral Behavior" as introduced by Rest and colleagues (J. R. Rest et al., 1999) and directional for the research as reported in **Chapter 2** of this doctoral thesis.

1.3.2 Conceptualization and operationalization of Moral Reasoning

The second component of the FCM is moral reasoning, which is considered to be a cognitive developmental structure, and one of the most extensively studied constructs included within the FCM (M. J. Bebeau, 2002). Moral reasoning - interchangeably also indicated as moral judgment - can be viewed as a skill that determines the course of action to proceed towards action, once the best choice of all available alternatives has been 'judged.' Moral reasoning is subject to development (i.e., with the increase of age, education, the level of reasoning) as assumed by Kohlberg's development theory (Kohlberg & Hersh, 1977). To say, a person will - from childhood through adolescence towards adulthood - advance along a stage-sequence of cognitive moral development; from respectively the pre-conventional -, via the conventional-, to the post-conventional stage. With the latter stage reflecting the focus on universal principles. The Defining Issues Test (DIT), developed by James Rest (J. Rest, Thoma, Narvaez, & Bebeau, 1997b), is one of the most used and researched indicators to measure the level of moral reasoning (King & Mayhew, 2002; J. R. Rest, Narvaez, Thoma, & Bebeau, 1999a; Schlaefli, Rest & Thoma, 1985). Furthermore, over the last couple of decades, the DIT has evolved towards the generally accepted gold standard to assess respondents' level of moral reasoning and is upheld by good psychometric properties and several types of validity (J. R. Rest, Narvaez, Thoma, & Bebeau, 1999b), including a settled cross-cultural validity (Moon, 1985).

To assess the level of moral reasoning, I, as reported in **Chapter 3** of this doctoral thesis, used the Dutch short-form version of the DIT (Raaijmakers, Engels, & Van Hoof, 2005). In the DIT (short form) that I used, participants were presented with three standard scenario-based moral dilemmas, namely: "Heinz and the drug," "The escaped prisoner," and "The newspaper." Each scenario was followed by eight statements that were meant to evoke the respondent's deliberations in solving the dilemma.

DIT Rating scales. For each moral dilemma, eight statements were to be answered on a 5-point Likert-type scale ranging from "very unimportant" (1) to "very important" (5) and were considered to be indicative of a specific stage in the level of moral reasoning: a) Personal interest, b) Maintaining norms, and c) Post-conventional. After rating all eight statements for each dilemma, the participant was asked to rank four statements out of eight as "most important," "second in importance," "third in importance," and "fourth in importance."

DIT and the N2 Index. The N2 index is an indicator of moral reasoning and has a two-part construction. The first part reflects the degree to which post-conventional arguments are prioritized in solving the moral dilemmas presented. This part of the N2 index resembles both the traditional P index (calculated solely based on ranking data) and rating data reflecting the degree to which higher-stage arguments are rated higher than the ratings of lower-stage arguments by subtracting lower-stage reasoning scale scores from the ratings on higher-stage reasoning scale scores. After standardizing the scores of the second part in such a way that both parts show the same mean and standard deviation, the N2 score is computed by adding the resulting scores of the two parts. For calculating the N2 index, we followed the explanation as reported by Rest and colleagues, both in their article and a purchased manual (J. R. Rest, 1990; J. Rest, Thoma, Narvaez, & Bebeau, 1997a).

1.3.3 Conceptualization and operationalization of Moral Motivation

Moral motivation is the third component of the FCM. Simply put, moral motivation stands for the ability of giving importance to competing choices. A deficiency in moral motivation could be for example favouring to see and treat patients who will generate higher revenues, whereas the other patients having problems with less favorable incentives also need care. So instead of making the moral choice of treating all patients regardless of whether they will generate more revenue, going for ultimately the lucrative cases is a lapse in moral motivation. With the suggestion that 'identity' is a source of moral motivation, it is assumed that once morality is crucial and pivotal to the self-sense and identity, it elevates the sense of responsibility and obligation to act consistently with the own moral concerns (Hardy & Carlo, 2005). It was the moral motivation component that led Aquino and Reed to conceptualize their understanding of 'moral identity' and defined it as: "a self-conception organized around a set of moral traits." Moral identity is considered not to be antithetical to the cognitive developmental model but rather complementary in identifying a social psychological motivator of moral conduct. Herewith it is appropriate to assume that moral identity serves as a precursor towards moral action. Aquino and Reed distinguish two separate factors of moral identity, namely: i) internalization and ii) symbolization, which are measured by the Moral Identity Measure (MIM) (Aquino & Reed II, 2002). The factor of internalization entails the degree to which moral principles are linked to an individual's self-concept and the factor of symbolization is especially focused on how the individual likes to be perceived publicly for her/his moral self.

The MIM measures both of these dimensions of self-importance. The MIM is a 10-question self-report instrument that asks the respondent to keep in mind the following nine characteristics that might describe him/herself or any person: caring, friendly, helpful, compassionate, generous, honest, fair, hardworking, and kind. Respondents are asked to visualize in their minds the kind of person who has such characteristics and asks them to imagine how that person would think, feel, and act. Respondents are then asked to rate the 10 statements on a seven-point Likert scale, from "strongly disagree" (=1) to "strongly agree" (=7). These statements assess the extent to which morality is important for the participant's sense of self-identity in terms of two dimensions, public and private. These two dimensions are defined in the measurement as "Symbolization," or public, and "Internalization," or private.

However, regarding the component 'moral motivation, ' little research is known to be conducted among health professionals, despite the fact that several studies conclude that moral identity is a predictor of moral action (Damon & Gregory, 1997). For this reason, we developed a context-specific indicator for measuring moral identity in this doctoral research, which we introduce as Ethics Advocacy (EA). This novel concept is defined as: "the importance that individuals attach to ethicality within the specific context of healthcare delivery." More specifically, EA entails the extent to which healthcare professionals consider it important for attention to be paid to the ethical aspects of care within their organization and during patient contact. The link to moral identity is a logical one, especially because EA reflects an internalized set of moral principles. In **Chapters 2** and **4,** EA is used as an explanatory variable.

1.3.4 Conceptualization and operationalization of Moral Character and implementation

Moral Character and ethical implementation compose the fourth integrative component of the FCM, which may be conceptualized as having the moral courage to act upon one's moral motivations and judgment. As described by Bebeau, it relates to being strong-willed and not yielding to pressure. As such, it "attends to the importance of character to effective and responsible care (Bebeau, 2002). Since character may be viewed as one of the five factors that create a personality (McDougall, 1932), in this present doctoral work, it was found plausible to measure personality traits as a proxy for character, and in line with that: the attitude or behavior. A trait-based approach of defining moral character can be underlined by the rather recent operational

definition of Cohen et al, namely: "moral character can be viewed as individual's characteristic patterns of thought, emotion, and behavior associated with moral/ethical and immoral/unethical behavior" (Cohen, Panter, Turan, Morse, & Kim, 2014). For this in **Chapter 3** of this doctoral thesis we at first tested whether the higher-order personality traits 'Stability' and Plasticity (based on the Big Five Personality traits) as proposed by DeYoung et al. are explanatory variables towards the level of moral reasoning (DeYoung, 2006). Second, regarding the behavioral aspect of moral character we introduced in both the studies of which is being reported in Chapter 4 as also in Chapter 5, two different scripts of (un)ethical conduct to assess the behavioral aspect of the fourth component of the FCM. Whereas in **Chapter 4** we reported about a vignette-based indicator that reflects a newly introduced concept of 'reporting reprehensible conduct', in **Chapter 5** we have opted to construct vignettes that has built in the stimulus of the propensity of 'yielding to pressure'. Regarding 'reporting reprehensible conduct' respondents were asked to identify the likeliness of reporting morally questionable behavior they observed among colleagues. This was assessed in relationship with the concept of Ethics Advocacy and behavioral control targeted at preventing harm. With this type of (un)ethical conduct we intended to develop a healthcare context-specific indicator for whistleblowing. This can be seen as a judgement of morality outside the self, whilst upholding the own moral standards, once the act involved reporting that morally reprehensible behavior. With the vignettes that measured the tendency of yielding to pressure we constructed the vignettes in such a way that the (un)ethical conduct immediately addresses the own moral self.

1.4 Moral disengagement: theory and measurement.

During recent years behavioral ethics research tends to focus on non-deliberate processes that might contribute in explaining (un)ethical conduct (Moore & Gino, 2015). Explorations are set out to the unconscious processes such as intuition and emotion being at the interplay of unethical conduct (Schwartz, 2016). In that, it is Albert Bandura who already also stressed that there is much more involved in the process that regulates the human conduct regarding solving moral dilemmas than only the underlying psychological processes as assumed in the rationalist-based approach of the FCM. For example, in Bandura's social cognitive theory (Bandura, 1986; Bandura, 1991) it is suggested that moral reasoning may lead to action, but that this is only possible through self-regulation rooted in one's own moral

standard. In other words, it's about people using cognitive mechanisms convincing themselves that what they are doing is morally acceptable. All of this with the sole purpose to "reconstruct" or "reframe" their own morally dubious behavior to justify it. Bandura proposed that this moral control selectively can be activated or disengaged (Bandura, 1990). This self-influence or control is seen by Bandura as a continuous process motivating and regulating the moral conduct. Bandura proposed that there were eight mechanisms involved in the interplay behind the perpetration of inhumanities: (a) moral justification, (b) euphemistic labelling, (c) advantageous comparison, (d) displacement of responsibility, (e) diffusion of responsibility, (f) distorting consequences, (g) attribution of blame, and (h) dehumanization. Each of the aforementioned mechanisms are represented by a subset of four items.

Carroll reported that moral disengagement was negatively correlated with the level of moral reasoning (estimated with the N2 score), indicating that lower disengagement (more self-censured behavior) is correlated with higher levels of moral reasoning (Carroll, 2009). Also, Dineen explored moral disengagement of medical providers as a contributing factor in ethical decision-making, in the continued reality that clinical practices often perpetuate the inadequate treatment that may occur by "progressive disengagement of self-censure" (Dineen, 2012).

In this doctoral thesis in all chapters reporting about the conducted studies the propensity of moral disengagement has been incorporated as an explanatory variable, albeit with different hypotheses. As an indicator of moral disengagement, we have adapted the original moral disengagement scale (MDS) by rephrasing its 32 items in such a way that they were more appealing to our respondents, all working in the perspective of Dutch healthcare. Psychometric assessment by Bandura and colleagues demonstrated a unidimensional scale with a Cronbach's alpha of 0.83. Initially, this questionnaire was developed to measure moral disengagement among children and young adolescents. Our modified moral disengagement scale has a Cronbach's alpha of 0.85. The psychometric properties of the scale that was used in the several studies as reported in the **Chapters 2, 3 and 5** in this doctoral thesis-was consistent with the findings by Bandura and colleagues and demonstrated that translation and adaptation had not affected the internal consistency of the scale.

1.5 The concept of Behavioral Control targeted at Preventing Harm

In this thesis the construct of Perceived Behavioral Control has been a construct of interest, because even though moral awareness/sensitivity and motivation can be very high, if an individual does not feel that the ability to behave morally (e.g. because the context does not allow it and / or because you feel powerless), then that does not result into moral behavior. For this we developed a healthcare context-specific indicator which roots from the Hippocratic principle of "First, do no harm" and measures a degree of behavioral control (Ajzen, 1991). This was operationalized by employing the concept of "Perceived Control of Preventing Harm." The result was the development of the "Behavioral Control targeted at Preventing Harm" (BCPH) scale, consisting of five items: 1) "I always feel responsible for proper patient care, even if the resources are insufficient"; 2) "My skill in assessing the needs of the patient always helps me in my work"; 3) "I can always properly assess whether and when a patient should be told the truth"; 4) "I can easily sense when a patient is not receiving proper care"; and 5) "In patient care, I am always aware of the balance between performing the task well and the risk of harm to the patient." Scoring high on the BCPH indicates that the respondent has a stronger behavioral control of abstaining from doing harm. In this doctoral thesis in **Chapter 2** and **Chapter 4** the indicator BCPH was used as an explanatory variable.

1.6 Outline of this doctoral thesis

There is a two-fold aim of this PhD research doctoral thesis; first, to assess antecedents of ethical conduct among Physician Assistants and Nurse Practitioners, since this has never been done before, neither in the Netherlands nor globally. For being able to do so first, the necessary indicators of the aforementioned constructs had to be validated, i.e. indicators for the constructs of the FCM, moral disengagement and perceived behavioral control. All in order to address the second aim of this PhD research, namely, to assess them as appropriate antecedent, explanatory variables in respect of ethical conduct.

Chapter 2 presents the outcomes of an attempt to validate the Moral Sensitivity Questionnaire which was translated into Dutch and adapted to the PA and NP professions. The six theoretical proposed dimensions as proposed by the developer of the MSQ (which was deemed as an appropriate indicator to measure the FCM's

component of moral sensitivity) could not be reproduced by exploratory factor analysis (EFA). With the study presented in Chapter 2 however two novel dimensions derived from the MSQ items are introduced and named as MSQ-DELIB and MSQ-PATER, respectively operationalized as indicators of a moral deliberate attitude and paternalist attitude based on the outcomes of a robust confirmatory factor analysis (CFA).

Chapter 3 describes the outcomes of a structural equation modelling in which evidence is reported for the personality meta-trait Stability being a statistically significant direct predictor on the level of post-conventional moral reasoning. In this it examines antecedents of moral reasoning as the second component of Rest's FCM. Furthermore, it was found that the statistically significant relationship between the personality meta-trait Stability and the post-conventional level of moral reasoning is explained by a lower propensity to morally disengage among highly stable people.

Chapter 4 reports about the outcomes of a moderation analysis. In the relationship between Ethics Advocacy, as an indicator of the third component 'Moral Motivation' of the FCM, and the propensity of reporting reprehensible conduct in care, behavioral control targeted at preventing harm is strengthening that relationship.

Chapter 5 delineates a similar analysis as conducted in the study being reported about in Chapter 4, but in Chapter 5 it was attempted to validate the predictive value of the MSQ-DELIB and MSQ-PATER as explanatory variables towards a novel construct introduced as 'Yielding to pressure'. The major finding of this study is that individuals with a highly morally deliberate attitude are more at risk for yielding to pressure and therewith have a tendency of deviating from the rules and regulations within a direct clinician-patient interaction, whereas this does not account for situations when the pressure is perceived from the direct working environment.

The main findings of my doctoral research as reported in the previous mentioned chapters are summarized in **Chapter 6** with the view to opening a venue for future directions regarding possible supplementary research.

REFERENCES

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179-211.

Aquino, K., & Reed II, A. (2002). The self-importance of moral identity. Journal of Personality and Social Psychology, 83(6), 1423.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ, US: Prentice-Hall, Inc.

Bandura, A. (1990). Selective activation and disengagement of moral control. Journal of Social Issues, 46(1), 27-46.

Bandura, A. (1991). Social cognitive theory of self-regulation. Organizational Behavior and Human Decision Processes, 50(2), 248-287.

Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. Personality and Social Psychology Review, 3(3), 193-209.

Bebeau, M. J. (2002). The defining issues test and the four component model: Contributions to professional education. Journal of Moral Education, 31(3), 271-295.

Bebeau, M. (2002). The Defining Issues Test and the Four Component Model: Contributions to professional education. Journal of Moral Education, 31(3), 271-295. doi:10.1080/0305724022000008115

Carroll, J. A. (2009). Impact of moral judgment and moral disengagement on rape-supportive attitudes in college males The University of Alabama.

Cohen, T. R., Panter, A. T., Turan, N., Morse, L., & Kim, Y. (2014). Moral character in the workplace. Journal of Personality and Social Psychology, 107(5), 943.

Craft, J. L. (2013). A review of the empirical ethical decision-making literature: 2004–2011. Journal of Business Ethics, 117(2), 221-259.

Damon, W., & Gregory, A. (1997). The youth charter: Towards the formation of adolescent moral identity. Journal of Moral Education, 26(2), 117-130.

De Bruijn-Geraets, D. P., van Eijk-Hustings, Y. J. L., Bessems-Beks, M. C. M., Essers, B. A. B., Dirksen, C. D., & Vrijhoef, H. J. M. (2018). National mixed methods evaluation of the effects of removing legal barriers to full practice authority of Dutch nurse practitioners and physician assistants. BMJ Open, 8(6), e019962-2017-019962. doi:10.1136/bmjopen-2017-019962 [doi]

De Haan, J. (2001). The Definition of Moral Dilemmas: A Logical Problem. Ethical Theory and Moral Practice: An International Forum, 4(3), 267-284.

DeYoung, C. G. (2006). Higher-order factors of the Big Five in a multi-informant sample. Journal of Personality and Social Psychology, 91(6), 1138.

Dineen, K. K. (2012). Moral disengagement of medical providers: Another clue to the continued neglect of treatable pain. Hous.J.Health L.& Pol'y, 13, 163.

Edelstein, L. (1943). The Hippocratic Oath: text, translation and interpretation. Ancient Medicine: Selected Papers of Ludwig Edelstein, 3-63.

Hardy, S., & Carlo, G. (2005). Identity as a source of moral motivation. Human Development, 48(4), 232-256. doi:10.1159/000086859

Jordan, J. (2007). Taking the first step toward a moral action: A review of moral sensitivity measurement across domains. The Journal of Genetic Psychology, 168(3), 323-359.

King, P., & Mayhew, M. (2002). Moral judgement development in higher education: Insights from the Defining Issues Test. Journal of Moral Education, 31(3), 247-270. doi:10.1080/0305724022000008106

Kohlberg, L., & Hersh, R. H. (1977). Moral development: A review of the theory. Theory into Practice, 16(2), 53-59.

Lützén, K., Nordström, G., & Evertzon, M. (1995). Moral sensitivity in nursing practice. Scandinavian Journal of Caring Sciences, 9(3), 131-138.

Lützén, K., Evertzon, M., & Nordin, C. (1997). Moral sensitivity in psychiatric practice. Nursing Ethics, 4(6), 472-482.

Lützén, K., Nordin, C., & Brolin, G. (1994). Conceptualization and instrumentation of nurse moral sensitivity in psychiatric practice. International Journal of Methods in Psychiatric Research, 4(4), 241-248.

Lützén, K., Nordstrom, G., & Evertzon, M. (1995). Moral sensitivity in nursing practice. Scandinavian Journal of Caring Sciences, 9(3), 131-138.

McDougall, W. (1932). Of the words character and personality. Journal of Personality, 1(1), 3-16.

Moon, Y. L. (1986). A review of cross-cultural studies on moral judgment

development using the Defining Issues Test. Behavior Science Research, 20(1-4), 147-177.

Moore, C., & Gino, F. (2015). Approach, ability, aftermath: A psychological process framework of unethical behavior at work. Academy of Management Annals, 9(1), 235-289.

O'Fallon, M. J., & Butterfield, K. D. (2013). A review of the empirical ethical decision-making literature: 1996–2003. Citation classics from the journal of business ethics (pp. 213-263) Springer.

Pellegrino, E. D. (2006). Toward a reconstruction of medical morality. The American Journal of Bioethics, 6(2), 65-71.

Raaijmakers, Q., Engels, R., & Van Hoof, A. (2005). Delinquency and moral reasoning in adolescence and young adulthood. International Journal of Behavioral Development, 29(3), 247-258. doi:10.1080/01650250544000035

Rest, J. R. (1986). Moral development: Advances in research and theory.

Rest, J. R. (1990). DIT manual. Center for the Study of Ethical Development, Minnesota, MN,

Rest, J. R., Thoma, S. J., & Bebeau, M. J. (1999). Postconventional moral thinking: A neo-Kohlbergian approach Psychology Press.

Rest, J., Thoma, S. J., Narvaez, D., & Bebeau, M. J. (1997a). Alchemy and beyond: Indexing the Defining Issues Test. Journal of Educational Psychology, 89(3), 498.

Rest, J., Thoma, S. J., Narvaez, D., & Bebeau, M. J. (1997b). Alchemy and beyond: Indexing the Defining Issues Test. Journal of Educational Psychology, 89(3), 498.

Rest, J. R., Narvaez, D., Thoma, S. J., & Bebeau, M. J. (1999a). DIT2: Devising and testing a revised instrument of moral judgment. Journal of Educational Psychology, 91(4), 644-659.

Rest, J. R., Narvaez, D., Thoma, S. J., & Bebeau, M. J. (1999b). DIT2: Devising and testing a revised instrument of moral judgment. Journal of Educational Psychology, 91(4), 644-659. doi:10.1037/0022-0663.91.4.644

Schlaefli, A., Rest, J., & Thoma, S. (1985). Does moral education improve moral judgment - a meta-analysis of intervention studies using the defining issues test. Review of Educational Research, 55(3), 319-352. doi: 10.3102/00346543055003319

Schwartz, M. S. (2016). Ethical decision-making theory: An integrated approach. Journal of Business Ethics, 139(4), 755-776.

Weaver, K. (2007). Ethical sensitivity: state of knowledge and needs for further research. Nursing Ethics, 14(2), 141-155.

CHAPTER 2

Re-assessing the validity of the Moral Sensitivity Questionnaire (MSQ): *Two new scales for moral deliberation and paternalism.*

Kuilman, L., Jansen, G. J., Mulder, L. B., Middel, B., & Roodbol, P. F. (2020).

Journal of Evaluation in Clinical Practice, 26(2), 659-669

ABSTRACT

Rationale, aims, and objectives: The current study and previous research have called the six-component model of Lützen's 30-item Moral Sensitivity Questionnaire (MSQ) into question. For this reason, we re-examined the construct validity of this instrument.

Methods: In this cross-sectional study, which was based on a convenience sample of Dutch nurse practitioners (NPs) and physician assistants (PAs), we tested the validity of MSQ items using exploratory and confirmatory factor analyses (EFA and CFA, respectively).

Results: The EFA revealed a two-component model, which was then tested as a target model with CFA and was found to have good model fit. Some items were correlated with two uncorrelated latent constructs, which we labelled as "paternalistic" and "deliberate" attitudes towards patients.

Conclusions: As in previous studies, the analyses in the current study, which was conducted among PAs and NPs, did not reveal six dimensions for the 30 items. Two new latent dimensions of moral sensitivity were psychometrically tested and confirmed. These two components relate to studies investigating ethical behavior, and they can be used to describe the moral climate in healthcare organizations. The scales are indicators of the extent to which health professionals behave in a deliberate (sensitive) or paternalistic (insensitive) manner towards the opinions of patients within the context of medical decision-making.

INTRODUCTION

In Western health systems, two interesting shifts with regard to professional and patient responsibility have taken place over the last few decades. First, the professional responsibility of making medico-ethical decisions that exclusively belonged to the realm of medical doctors (MDs) has been extended to other health professions, including nurse practitioners (NPs) and physician assistants (PAs) (Maier, 2015; Merkle, Ritsema, Bauer, & Kuilman, 2011). Second, in the past, MDs guided their patients through the medical treatment process according to a strong paternalistic attitude. In current practice, the perspective has shifted towards emphasizing the central role of patients in healthcare (Siegler, 1985). Within the models of shared decision-making (SDM) that are now prevalent, assigning a central role to the patient is regarded as an ethical imperative. Such models of SDM are consistent with the four principles of ethics in care: respecting autonomy, propagating beneficence, avoiding harm, and achieving justice (Beauchamp & Childress, 2001). Medical decisions established through SDM have been shown to be associated with improved medication compliance, health-related quality of life, an increase in patients' perceived control over their choices with regard to treatment options, and a decrease in healthcare utilization (Driever, Stiggelbout, & Brand, 2020). In the past, clinicians were accustomed to employing protocols and guidelines that were accepted as the gold standard for treatment. In contrast, computer-literate and empowered patients are adding a new dimension to the treatment relationship, thus potentially increasing the risk of tension and conflict (Jacobson, 2007).

In light of such changes in the treatment relationship, tension is likely to arise between what a clinician regards as the best treatment option (or even what rules and regulations dictate that they propose) and the treatment that is perceived as the best in the eyes of the patient. Such tension could create a moral dilemma, which could be described as a situation in which for example there are conflicting opinions (between health professional and patient) regarding what is the best treatment option (De Haan, 2001).

Health professionals may employ one of essentially two decision- making strategies or coping mechanisms to reduce dilemma-related stress: (i) a predominantly patient-centered, deliberate attitude focused on patient autonomy (Quill & Brody, 1996; Robinson, Callister, Berry, & Dearing, 2008) or (ii) a more dominant, clinical view, known as the "paternalistic approach" (Pellegrino, 2006; Siegler, 1985). Health

professionals adopting a paternalistic attitude are less likely to engage in dialogue regarding treatment options or the health beliefs of patients. They are more likely to decide what is best for the patient based on their own self- presumed professional knowledge and evidence-based practice. Health professionals who have adopted a deliberate attitude that takes the opinions and wishes of patients into account must reflect on their decisions in the light of the patient's views (Abma, Molewijk, & Widdershoven, 2009).

BACKGROUND

Regardless of whether health professionals cope with moral dilemmas through either a deliberate or paternalistic attitude, moral dilemmas arising within interactions must necessarily be resolved through an ethical decision-making process. For example, James Rest captures this ethical decision-making process in the "four-component model of moral behavior" (FCM). The FCM states that moral decision-making is influenced by moral sensitivity, moral reasoning, moral motivation, and moral character. In this model, Rest conceptualizes moral sensitivity as the first and essential precursor in ethical decision-making, defining it as "a combination of one's recognition of moral issues, and how one reacts and processes these issues from an affective perspective within a social context" (Rest, 1986).

Lützén and colleagues (Lützén, Nordström, & Evertzon, 1995) defined the concept of moral sensitivity (MS) in theoretical terms as "a personal attribute involving the ability to recognize a moral conflict, a contextual and intuitive understanding of a person's vulnerable situation and insight into the ethical consequences of decisions made on behalf of another person." They operationalized this concept of moral sensitivity using the Moral Sensitivity Questionnaire (MSQ) in study populations consisting of psychiatrists (Lützén, Johansson, & Nordstrom, 2000) and psychiatric nurses (Lützén, Evertzon, & Nordin, 1997). Based on their results, they reported six dimensions (i.e., latent variables). With reference to exploratory analysis, Lützén and colleagues label these dimensions as follows: 1) interpersonal orientation, 2) structuring moral meaning, 3) expressing benevolence, 4) modifying autonomy, 5) experiencing moral conflict, and 6) having confidence in medical knowledge (Lützén et al., 1997). In a methodological and statistical appraisal of the results as published, however, a weak structure emerges as a result of three observations. First, factor loadings (correlations between items and the underlying construct) were too low, as items should be sufficiently correlated (factor loading ≥.40) with the target dimension

in the data. Second, some correlations were biased such that the target construct could not be interpreted, as the full matrix of factor loadings was not presented. And third, several items were correlated with more than one construct of moral sensitivity, thereby violating the necessary condition that each item should exclusively tap an aspect of only one underlying construct or dimension. As a consequence of these problems, the indices of reliability or internal consistency (Cronbach's alpha) for these six scales ranged from 0.36 to 0.61, thus indicating poor intercorrelations between the items.

Other MSQ studies conducted in many different countries (Borhani, Abbaszadeh, Mohamadi, Ghasemi, & Hoseinabad-Farahani, 2017; Dalla Nora, Zoboli, & Vieira, 2017; Han, Kim, Kim, & Ahn, 2010; Yilmaz Sahin, Iyigun, & Acikel, 2015) have also evaluated the content and psychometric quality of a 30-item MSQ. These combinations of items proposed in these studies deviate from the latent constructs proposed by Lützén. As was the case with the instrument-testing performed by Lützén and colleagues, the aforementioned studies consisted exclusively of exploratory factor analysis (EFA). This method is not the most suitable for arriving at conclusive results about the factor structure of a scale, given that EFA based solely on the Kaiser criterion could potentially generate an excessively inclusive result (Fabrigar, Wegener, MacCallum, & Strahan, 1999).

Thus, as the mixed results of the above studies suggest, there are still some unclarities about what the MSQ measures and how it should be used. On top of this, the 30-item MSQ has so far only been validated among psychiatrists and among nurses (Lützén et al., 1995; Lützén, Evertzon, & Nordin, 1997). However, it will be particularly interesting and relevant to develop and validate the MSQ among PAs and NPs. This is because these healthcare professionals have a special role that distinguishes them from nurses and doctors. As their responsibility lies in between that of MDs and nurses, their role is largely characterized by having medical-decisional responsibilities. In this role, both deliberate and paternalistic attitudes may take a prominent place in their professional identities. Indeed, in a feasibility study that we first performed, we found some indication that the MSQ administered among this specific group particularly distinguishes paternalistic and deliberative attitudes. We conducted this feasibility study among Master's-level PA students (N = 32). By employing the method developed by Ruscio and Roche, (Ruscio & Roche, 2012) we found a two-factor structure. One of these factors apparently reflects a paternalistic attitude in decision-making, while the other reflects a deliberate attitude.

Study objective

To test the reproducibility of this two-component factor structure, we performed another study based on a larger sample consisting of the particular group of Dutch PAs and NPs. The objectives of this study are as follows: a) evaluate how many factors of the MSQ should be retained for further factor analysis, and b) apply both exploratory and confirmatory factor analysis (CFA) to test the dimensionality, scalability, and construct validity of the items remaining from the MSQ.

Research Questions

To meet the study objectives, the following research questions will be addressed:

1. Which items of the MSQ are unequivocally correlated with latent constructs when using the criteria of EFA after having determined how many factors should be retained, and how strong is the model fit, based on CFA?
2. Are the items of these components scalable? And do these scales have sufficient internal consistency (reliability)?
3. Do the retained scales confirm discriminant or convergent validity as hypothesized when correlated with the following scales, which are known to tap moral aspects of the decision-making process: the Behavioral Control targeted at Preventing Harm (BCPH) scale, the Ethics Advocacy Scale (EAS), (iii) the Moral Disengagement Scale (MDS), and (iv) the Defining Issues Test (DIT-N2)?

METHODS

Study design, participants, and data collection

In this cross-sectional study, five PA and one NP degree programs were selected as sources for approaching alumni. Based on the Dutch Personal Data Protection Act, the researchers were not granted permission to use the databases of the programs in order to retrieve alumni email addresses. The information letter concerning the current study was therefore sent to 470 NP alumni and to 426 PA alumni by the programs' administrators. By activating a hyperlink to a private web-based system included in this letter, individual alumni were free to reveal their contact details to the researchers. When respondents returned permission to use their email addresses, this was regarded as informed consent. Upon receipt of their permission, these

alumni were sent the access key to the web-based set of questionnaires. In all, 294 subjects were willing to participate: 176 PAs and 118 NPs, meaning a response rate of 52.7% (ie, 155/294). Upon closure of the online survey (between January and March 2015), 155 respondents had completed all of the questionnaires. In all, 139 alumni, who initially consented to participate, eventually did not reply to the survey. Therefore, no information about this group was available that could be used to test for selection bias. All questions in the Qualtrics online survey environment were forced choice, so there were no missing data. The "Strengthening the Reporting of Observational Studies in Epidemiology" (STROBE) checklist was employed.

Ethical approval and consent to participate

According to the statement by the Central Committee on Research Involving Human Subjects (www.ccmo.nl), no Institutional Review Board (IRB) approval was warranted for this type of survey study among volunteer professionals. This study was performed in accordance with the tenets of the Declaration of Helsinki (General Assembly of the World Medical Association, 2014). Only the first author (LK) had access to the online survey data.

Academic integrity statement

The dataset in the current study was the same as the one in Kuilman et al (2019) (Kuilman, Jansen, Middel, Mulder, & Roodbol, 2019). However, from that pool different, variables were used, focusing on different research questions. Only the MDS and the indicator for moral reasoning (DIT-N2) were used in both studies, albeit with different hypotheses and functionality (independent vs dependent variable)

Statistical analyses

All data were analysed using SPSS Statistics for Windows, Version 25.0. CFA was performed using SPSS AMOS, Version 23.0.

Bivariate analysis

For categorical data, we used the chi-square test (Fisher's exact tests for 2 × 2 contingency tables) and the difference-between-proportions test (Newcombe & Altman, 2000). For continuous variables, we used the Student's t-test for independent samples.

Multivariate analysis

To assess the structural validity of the MSQ, we performed factor analyses and calculations of reliability estimates, as explained below.

Model fit through Confirmatory Factor Analysis. We used the following goodness-of-fit indices to determine model fit using CFA: a) chi-square/degrees of freedom (χ2/df), b) root mean square error of approximation (RMSEA), c) standardized root mean square residual (SRMR), d) comparative fit index (CFI), and e) a goodness-of-fit index (GFI). The χ 2/df with a ratio between 0 and 2 is indicative of a good fit (Schermelleh-Engel, Moosbrugger, & Müller, 2003; Tabachnick & Fidell, 2007). For the RMSEA, a cut-off value less than or close to 0.06 was assumed to be appropriate (Hu & Bentler, 1999). The lower limit of the confidence interval (CI) should be close to 0, and the upper limit should not exceed 0.08. We also report the SRMR, as its standardized nature makes it easier to interpret. Values for the SRMR ranged from zero to 1.0, with good-fitting models having an acceptable threshold of less than 0.08. (Hu & Bentler, 1999) For the CFI, values equal to or greater than 0.95 are deemed indicative of a good model fit (Hu & Bentler, 1999). For the GFI, cut-off values greater than or equal to 0.95 are recommended for relatively low factor loadings and sample sizes (Miles & Shevlin, 2007). The Akaike information criterion (AIC) was used to compare different models. This criterion is a descriptive measurement, in which the preferred model is the one with the lowest value (Akaike, 1974).

Internal consistency

Cronbach's alpha values were calculated to examine the reliability of all scales. In general, values equal to or greater than ≥0.70 are considered sufficient (Bernstein & Nunnally, 1994).

Convergent and divergent validity

Convergent validity refers to the extent to which a construct measures what it is purported to measure (Polit & Beck, 2004; Streiner, Norman, & Cairney, 2015). It is assessed according to data showing that different measurements of conceptually related dimensions of moral behavior are conceptually associated in the hypothesized direction. In this study, convergent validity was imputed according to statistically significant associations (linear associations between measurements of moral behavior), while divergent validity was assumed when there was no correlation (i.e., P > 0.05). The degree of overlap between constructs was estimated by calculating the nonparametric effect size of Rho (given the sample size). The statistically significant

small effect size, with Rho in the range of ≥0.10 to <0.30 and Rho ≥0.30 to < 0.50, indicates a medium effect that is comparable to relevant effect sizes in terms of differences between two means (Cohen, 1988). Divergent validity was analyzed according to correlations between measurements of moral behavior that were expected to be unrelated (i.e., no statistically significant correlation).

Measurements

Sociodemographic characteristics

In this study, the following sociodemographic characteristics were self-reported: age, gender, working environment, and religion.

Moral Sensitivity Questionnaire

In order to adjust the psychiatry oriented MSQ (Lützén et al., 1997) for use in research populations of NPs and PAs, it was necessary to rephrase nine items. For example, references to "psychiatrist" were replaced with references to either "NP" or "PA" in two items, and the terms "psychiatric care" and "psychiatric practice" were rephrased as "care" or "practice," respectively, in five items. Furthermore, two items referring to "treatment under the Mental Health Act" were rephrased to refer to "care provided to incapacitated patients." Respondents were asked to use a 7-point Likert scale (1 = fully disagree to 7 = fully agree) to indicate how they perceived their own manner of decision-making in moral dilemmas. Each of the items reflected either a paternalistic or deliberate attitude, as assumed in a previous feasibility study conducted among PA students. For each scale, item scores were coded, summed, and transformed into a scale ranging from 0 to 100 (with higher scores reflecting greater sensitivity or insensitivity) and calculated by subtracting the lowest possible scale score from the raw summed scale score, divided by the range of scores on the scale and multiplied by 100.

The instruments used for testing the convergent and divergent validity of the hypothesized latent MSQ constructs (as found in the feasibility study), as described in Appendix 1, include the following: a) the BCPH scale; b) the EAS; c) the MDS, and d) the DIT-N2 (Ajzen I, 1991; Bandura A, 1996; Bandura A, 1999; Raaijmakers Q, Engels R, Van Hoof A, 2005; Rest J, Thoma SJ, Narvaez D, Bebeau MJ, 1997; Rest JR, 1990).

All of the scales used in the current study were transformed towards normality through a two-step transformation process, conducted prior to the analyses (Templeton & Burney, 2016).

Translation of measurement instruments

Questionnaires were translated into Dutch following the procedure proposed by Guillemin and colleagues (Guillemin, Bombardier, & Beaton, 1993). First, two certified translators working independently of each other translated the original English version of the questionnaires into Dutch. Second, two other certified translators each back-translated the Dutch translation into English. The resulting English versions were compared with the originals and discrepancies were discussed and resolved by consensus between the researchers LK, GJ, and BM.

Hypotheses regarding convergent and divergent validity

We examined the strength of the correlation coefficients as indicators of conceptual overlap between paternalistic and deliberate attitudes according to four concurrent self-report measurements. The following hypotheses were formulated:

Divergent validity

Although paternalistic and moral deliberate attitudes are usually pictured as two opposites, the traits are nevertheless expected to be independent of each other. This is because the features of both traits are not incompatible with each other. For example, an important feature of a deliberate attitude is valuing to have a relationship with patients. This is not necessarily in contradiction with one's inclination to follow rules and regulations and base one's decision on medical practice (which is a feature of a paternalistic attitude). So, even though a healthcare professional may be aimed at having a relationship with a patient and treat the patient with respect (i.e., deliberate attitude), still the healthcare professional can decide to base his/her decision on medical knowledge or regulations, even if that is against the will of a patient (i.e., paternalistic attitude), if he/she really thinks this is in the best interest of the patient. We therefore hypothesize that:

- H1: There is no correlation between the two scales measuring a deliberate attitude and paternalistic attitude respectively.

We further assume that paternalistic and the deliberate attitude are different from moral reasoning. After all, moral reasoning reflects a cognitive, intra-personal process, in which a person engages in a deliberation on what is the moral thing to do. The paternalistic and deliberative attitudes refer more to a person's general preferences for how they relate to patients. This is more an inter-personal issue and reflect one's tendencies of how to behave in a patient-professional relationship. We therefore

hypothesize that:

- H2: Neither the paternalistic nor the deliberate attitude scale is expected to have any significant overlap with the level of moral reasoning (DIT-N2).

Convergent validity

We assume that deliberative attitude is related to several ethical tendencies of people. After all, the main characteristic of a deliberative attitude to value a respectful relationship with patients. Hence, deliberate patient-centered decision-making is expected to more strongly possess preferences and traits that are ethics-related. For example, they may be more likely to adhere to the fundamental principle of "First, do not harm"; they may be more likely to value ethical considerations in care and are less inclined to use mechanisms of moral disengagement. We therefore hypothesize that:

- H3.1: There is a positive correlation between a moral deliberate attitude and the BCPH scale.
- H3.2: There is a positive correlation between a moral deliberate attitude and the EAS.
- H3.3: There is a negative correlation between the moral deliberate attitude and the MDS.

On the other hand, a paternalistic attitude may differently relate to ethical tendencies. Because people with a paternalistic attitude are more likely to avoid empathizing with the patient's dilemmas and prefer rules and regulations, they may exhibit little inclination to advocate the need for ethics in patient care. Hence, they may also have a weaker tendency to control impulses of morally disengaged behavior. We therefore hypothesize that:

- H4.1: The NPs' and PAs' paternalistic attitudes are expected to have no correlation with the EAS.
- H4.2: The NPs' and PAs' paternalistic attitudes are expected to have a positive correlation with the MDS.

Despite the expectation that a paternalistic attitude is negatively related to the need to advocate for ethics and positively to moral disengagement, this does not necessarily mean that they do not care about the "First, do not harm" principle. In fact, people who score high on paternalism may also adhere to this principle, although they try to achieve this in different ways than people who score high of moral deliberation

(namely, through the adherence to regulations and expert information rather than through building a relationship with the patient). Therefore, we hypothesize:

- H.4.3: There is a positive correlation between a paternalistic attitude and the BCPH scale.

RESULTS

Sociodemographic characteristics

An overview of the sociodemographic characteristics broken down by professional group (i.e., NPs and PAs) is provided in Table 1. The mean age of the PAs (42.5 years) was lower than that of the NPs (48.8 years). The two groups did not differ in terms of gender, religion, or work setting. Moreover, no significant differences were found between the two professions with regard to the prevalence of politically conservative or liberal orientations. Based on these results, we considered it acceptable to merge the samples for analyses.

Table 1: Sociodemographic characteristics of participants, stratified by profession (NPs and PAs)

Sociodemographic characteristics		Physician Assistant *N = 88*	Nurse Practitioner *N = 67*	Total *N = 155*	(p-value)
Age mean (SD)		42.5 (8.4)	48.8 (8.7)	45.2 (9.1)	< .001#
Gender	Female N (%)	56 (63.6)	53 (79.1)	109 (70.3 %)	.05$
	Male N (%)	32 (36.4)	14 (20.9)	46 (29.7 %)	
Religion	Not religious	48 (54.5)	35 (52.3)	83 (53.5 %)	.54$
	No denomination, but spiritual	3 (3.4)	4 (4.5)	7 (4.5 %)	
	Christian	35 (39.8)	25 (37.3)	60 (38.7 %)	
	Islam	1 (1.1)	0	1 (0.7 %)	
	Other religions	1	3 (4.5)	4 (2.6 %)	
Working environment	Hospital, N (%)	64 (72.7 %)	49 (73.1%)	113 (72.9 %)	.58$
	General practice, N (%)	13 (14.8 %)	7 (10.5 %)	20 (12.9 %)	
	Mental health, N (%)	3 (3.4 %)	6 (9 %)	9 (5.8 %)	
	Disability care, N (%)	1 (1.1 %)	1 (1.5 %)	2 (1.3 %)	
	Other, N (%))	7 (8 %)	4 (5.9 %)	11 (7.1 %)	
Political orientation	Conservative N (%)	15 (17 %)	6 (9 %)	21 (13.5 %)	.14$
	Liberal N (%)	73 (83 %)	61 (91 %)	134 (86.5 %)	

= independent-sample t-test; $ = difference between proportions test

Confirmation of the latent MSQ dimensions

The Velicer's Minimum Average Partial (MAP) test yielded three factors to be retained (MAP squared: 0.017) for consecutive analysis (Courtney & Gordon, 2013). This test was followed by EFA, which was also based on a polychoric correlation matrix (Olsson, 1979) using principal axis factoring and oblimin-quartimin-Q rotation (Basto & Pereira, 2012). A three-factor model converged well, detecting 16 items with loadings exceeding 0.40 and having no cross-loadings exceeding 0.20 on any other factors (Costello, 2009). CFA was used to assess the model fit of the three-factor solution retained from the MSQ item pool. At first glance, the model fit parameters for the CFA appeared to indicate an acceptable model fit. Upon closer examination, however, five items (all of which were clustered in one factor) had standardized loadings well below 0.40. These items were therefore eliminated from the model. Finally, a two-factor solution demonstrated a very good model fit, with $\chi 2/df = 1.168$ and a significance of $p = 0.223$, RMSEA = 0.033 (CI 90% lower bound = 0.000 and CI 90% upper bound = 0.069), SRM*R* = 0.0622, CFI = 0.965, and GFI = 0.951. The lower AIC value (101.218) that was found for the two- factor solution, as compared with the AIC of the initially anticipated three-factor solution model (203.371), provided evidence that eliminating the weak items was necessary in order to establish a good model with two latent constructs. Despite this good model fit, three items in Factor 1 continued to exhibit standardized regression weights less than 0.40: Item 4 ("When I need to make a decision contrary to the will of a patient, I do so according to my opinion about what is good care"), Item 12 ("If I am unacquainted with the case history of a patient, I follow the rules that are available"), and Item 16 ("I think that good care often includes making decisions for the patient"). Additional CFA, in which the three items with factor loadings less than 0.40 were separately excluded from the analysis, indicated deterioration in the model fit parameters. Once all of the items with factor loadings less than 0.40 were excluded from the analysis, the model became unidentifiable. For that reason, these three items were not included in Factor 1.

As in the feasibility study, the results of this study indicate that the MSQ item pool represents two dimensions. In light of these findings, we conducted a meticulous recheck of the content of the factors retained from the MSQ items. This led to the conclusion that the findings were congruent with the content of the moral deliberation and paternalism of the physician-patient relationship models hypothesized by Emanuel and Emanuel (Emanuel & Emanuel, 1992) and empirically tested by Falkum and Førde

(Falkum & Førde, 2001). Factor 1 thus represents a construct that we have labelled the "Paternalistic Attitude Scale" (MSQ-PATER), as the items reflect the thinking that one is acting in the patient's best interest while disregarding the patient's will in the matter. In this study, we defined the concept of paternalism as "a tendency to avoid empathizing with the patient's dilemmas and taking decisions with a strong emphasis on rules and regulations, as well as on medical knowledge and practice, and based on professional opinions about the best treatment options". Factor 2 represents a construct that we describe as the "Deliberate Attitude Scale" (MSQ-DELIB). All of the items in this scale center on the dimension of a professional relationship between the clinician and the patient, as indicated by such socio-cognitive, affective themes as "autonomy," "relationship," "giving respect," and "providing patients with insight." The concept of moral deliberation thus implies that NPs and PAs engage in careful and serious deliberation before making any important medical decisions. This finding is based on the independent content analysis of MSQ items. We defined the concept of moral deliberation, measured by the MSQ-DELIB as "medical decision-making aimed at helping patients to determine the best health-related values that can be realized in the clinical situation after consider- able deliberation." The new scales and their assigned items are presented in Figure 1, along with (a) their respective standardized regression weights (i.e., factor loadings) from latent constructs to the variables measured and (b) their standard errors. All beta weights were statistically significant ($p < .001$). Both the "MSQ-PATER" and the "MSQ- DELIB" scales had internal consistency of 0.70

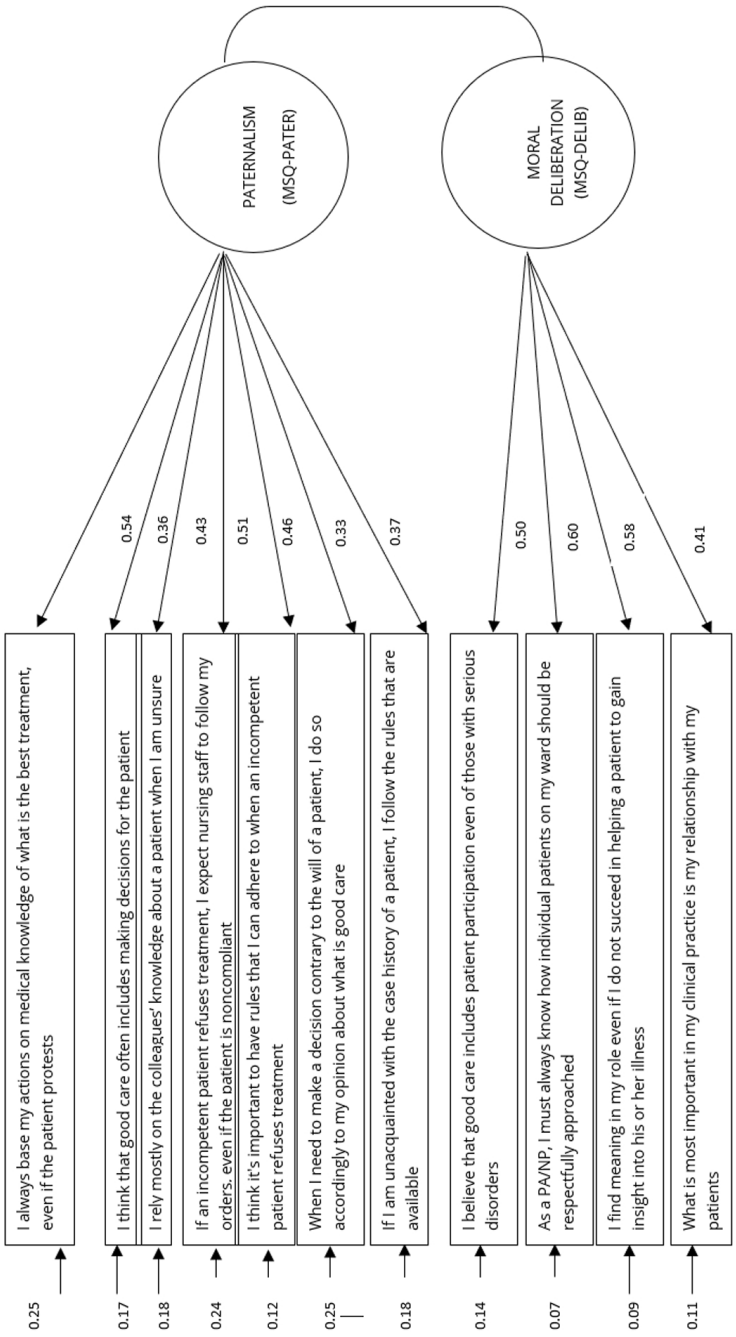


Figure 1: CFA two-factor solution with standardized estimates on the MSQ items.

Construct validity of the MSQ-DELIB and MSQ-PATER scales

Divergent validity

As demonstrated by the results of CFA, the constructs of MSQ- PATER and MSQ-DELIB had no conceptual overlap (see Figure 1) and were not correlated (r = .03). The hypothesis concerning the divergent validity of the MSQ-DELIB and MSQ-PATER scales (H1) was confirmed. The results further provide evidence of divergent validity for both scales, given the absence of any correlation between either scale or the DIT-N2 (H2).

Convergent validity

Our analyses revealed several statistically significant correlations, which could be used to establish convergent validity, as hypothesized. First, (H3.1), the MSQ-DELIB scale is positively correlated with a) the "Behavioral Control targeted at Preventing Harm (BCPH)" scale (r = .34) and b) (H3.2) the "Ethics Advocacy Attitude Scale (EAS)" (r = .42), and it is thus negatively correlated (H3.3) with c) "Moral Disengagement Total (MDS)" (r = −.17). Second, there is a significant correlation between the MSQ-PATER scale and a) the BCPH scale (r = .17) and b) MDS (r = .20), with no inclination towards ethics advocacy (−.06, ns), as hypothesized (H4.1, H4.2, H4.3).

Given that the correlation between paternalism (MSQ-PATER) and BCPH was weaker than the correlation between moral deliberation (MSQ-DELIB) and BCPH, it could be that care providers who tend to follow a model of negotiation in their interactions with patients are likely to attach greater importance to the prevention of harm (r = .34) than are care providers who are more inclined towards "command management" (r = .17).

The Cronbach's alpha values, which serve as indicators of internal consistency for all of the scales used, are included in the right-hand column of Table 2.

Table 2: Convergent and divergent validity of the Deliberate Attitude Scale (MSQ-DELIB) and the Paternalistic Attitude Scale (MSQ-PATER)

		1	2	Alpha
1	Deliberate Attitude Scale (MSQ-DELIB)			0.70
2	Paternalistic Attitude scale (MSQ-PATER)	.03		0.70
3	Behavior Control targeted at Preventing Harm (BCPH) scale	**.34** **	**.17***	0.72
4	Ethics Advocacy Scale (EAS)	**.42** **	- .06	0.72
5	Moral Disengagement Total (MDS)	**- .17** *	**.20***	0.85
6	Defining issues test (N2-index)	- .04	- .00	0.80

*$p < .05$; **$p < .01$

DISCUSSION

Prior to the current study, a feasibility study was conducted among students in a master's program for PAs, in order to test the psychometric properties of several instruments, some of which have also been included in this study. The objectives of the feasibility study also included modifying and validating a revised version of the MSQ, as developed by Lützén and colleagues (Lützén et al., 1997), for use among NPs and PAs. In that study, however, a simple EFA using Varimax rotation revealed 10 latent components, instead of the six that were theoretically assumed by Lützén and colleagues. A subsequent narrative review of the literature revealed that international scholars building on the work of Lützén and colleagues (Borhani et al., 2017; Dalla Nora et al., 2017; Han et al., 2010; Yilmaz Sahin et al., 2015) had also been unable to reproduce the six factors proposed for the original instrument. In light of these developments, we decided not to re-evaluate the six-component structure, but instead to modify and validate a revised version of the instrument. The outcomes of the current study support the validity and reliability of two new scales: MSQ-DELIB and MSQ- PATER. These findings are obviously preliminary, given that this is the first time that the validity of these new MSQ dimensions have been evaluated among Dutch NPs and PAs. The solid methodology of this study nevertheless contributes to these two new scales, which were established through CFA to produce a two-factor solution with good model fit and satisfactory internal consistency (reliability estimates). Our findings are in line with work by Emanuel and Emanuel, who identify deliberative and paternalistic attitudes as two of the four parts of the clinician-patient relationship (the other two being informative and interpretive attitudes) (Emanuel & Emanuel,

1992). The first factor identified in the current study was labelled the MSQ-PATER. Examination of the seven items of these scale reveals that they center on such themes as "following the rules," "personal opinion about good care," and "best treatment." All of these themes are consistent with the general perception of paternalism, that is, one is acting in the patient's best interest, while disregarding the patient's will in the matter. In this light, we formulated the following operational definition of paternalism was formulated to capture the meaning of the MSQ-PATER: "The tendency toward paternalism in medical decision-making is activated by a clinician's preference for arguments based on rules and regulations. Decisions are established through the interplay between the clinician's own opinion, medical knowledge, and experience, as well as the opinions of others, while ignoring the will of the patient."

The second factor identified in the current study relates to the dimension of the professional relationship between the clinician and the patient, as indicated by affective, socio-cognitive considerations (e.g., consideration for "autonomy," "relationship," "giving respect," and "providing patients with insight"). We combined these four items to form the MSQ-DELIB, which reflects "the clinician's aim of helping patients to determine the best health-related values that can be realized in the clinical situation".19 Such an aim requires morally sensitive reflection on the ethical consequences of decisions in treatment. It encompasses the desire to treat patients with the proper respect and to find meaningfulness in working with patients. A such, it is broadly consistent with the definition proposed by Lützén and colleagues: "the contextual and intuitive understanding of the vulnerability of a person's situation and insight into the ethical consequences of decisions made on behalf of the person" (p. 474) (Lützén et al., 1997). Be that as it may, based on our content analysis, the items identified in Factor 2 provide no basis for adhering to Lützén's concept of moral sensitivity. The items in Factor 2 do not reflect sensitivity for moral issues of the patient but rather represents an attitude towards moral dialogue.

After the two new measurement scales were developed, they were tested for construct validity. These tests yielded favorable convergent and divergent outcomes thus indicating good construct validity. As hypothesized, the indicator of moral reasoning (DIT-N2) showed no significant correlation with the two new scales. This is in line with a review by Muriel Bebeau (Bebeau, 2002) positing that one could question whether the four components of the FCM should necessarily be correlated. Such questions are particularly justified in light of Bebeau's view on this assumption: "Conclusions

to date suggest that measures of the components are assessing abilities that are distinct from one another." In addition, and more importantly, the two new scales do not measure a cognitive process but a morally deliberate and paternalistic attitude. Convergent validity is thus not something that should actually be expected.

Once the MSQ-DELIB and MSQ-PATER were confirmed as valid scales—measuring moral deliberation and paternalism, respectively— we considered the question of why only 11 of the 30 items in the original MSQ (Lützén et al., 1997) addressed in this study were retained. Given that Lützén and colleagues propose a theoretical construct that includes 30 operationalized aspects that are presumed to measure the six domains of moral sensitivity, it is remarkable to note that, in a more recent study (Lützén, Dahlqvist, Eriksson, & Norberg, 2006), only 9 of those 30 items emerge as valid operationalizations for measuring the construct of moral sensitivity. The current study used the same pool of 30 items from the original physician's version of the MSQ, and factor analysis was used in order to assess whether the items correlated with the underlying construct. Our results indicate a comparable reduction in the number of items. This suggests that the 9-item MSQ of Lützén and colleagues may not actually measure moral sensitivity (Lützén et al., 2006). Moreover, our results provide evidence that the two new scales, which are based on the original items of the MSQ, measure levels of moral deliberation (MSQ-DELIB), and paternalism (MSQ-PATER) that are broadly in line with the findings of Falkum and Førde (2001). Our results also adds to Falkum and Førde as the scales in the current study are presented in the first person (e.g., "When I need to make a decision contrary to the will of a patient, I do so accordingly to my opinion about what is good care"), whereas Falkum and Førde (2001) present statements in the third person (e.g., "The physician expert should decide"). As such, the scales may be more likely to reflect a deliberate predisposition towards a paternalistic and moral stance, rather than any broader, general values concerning moral deliberation and paternalism. We do not wish to make any value judgement concerning whether a deliberate or a paternalistic attitude is better. Even though it may seem that we now regard a paternalistic approach as inappropriate within the clinician- patient relationship, it might be the case that this is a reflection of our contemporary culture. However, societies change, and it is possible that, in a future era, a paternalistic or a deliberate attitude is differently valued than it is now.

Strengths and limitations

One of the major strengths of this research lies in its robust study design (employing CFA), including the assessment of the convergent and divergent validity of the scales. Another important strength is that the results are based on a representative sample that reflects the characteristics of the PA and NP workforces in the Netherlands with regard to gender and age (Laurant, van de Camp, Boerboom, & Wijers, 2014). For this reason, the results can be generalized to a certain extent to both the NP and PA workforces at large. We also expect that the MSQ-DELIB and MSQ-PATER are applicable to other healthcare professionals who share a comparable framework regarding knowledge, skills, and legal boundaries (e.g., MDs). One weakness of the study, however, is that the stability of the instrument (ie, its test-retest reliability) was not assessed. The study design did not allow for testing the two scales for longitudinal validity. By definition, cross-sectional studies cannot examine the stability of the attitudes or traits of subjects over time. A follow-up study will investigate longitudinal psychometric research questions focusing on the test- retest stability of the instruments. Another limitation of the current study is that no a priori calculations of sample size were performed. Given the lack of studies assessing moral sensitivity among PAs and NPs, however, the field was open to exploration. Given the actual sample size addressed in the study (155 records), it may not be necessary to assume that the results of our CFA were compromised by the sample size. Although we are aware of the various rules and opinions used to determine the sample size needed for CFA, this study was based on a convenience sample with an N (=155) to P (number of items = 11) ratio of 14.1. We therefore felt confident that the assumption underlying CFA was not violated. (Gagne & Hancock, 2006) Finally, even though our analyses revealed statistically significant correlations for both the MSQ-DELIB and the MSQ-PATER scales based on convergent and divergent instruments, the explained variances were relatively low.

CONCLUSION

The results of this study provide evidence of two new latent dimensions derived from the items of the original MSQ. Because the scales MSQ-DELIB and MSQ-PATER have been validated only for NPs and PAs, further exploration and validation may be needed before the three items with loadings less than 0.40 from Factor 1 (MSQ-

PATER) can be eliminated. To this end, these three items should be rephrased to be more closely aligned with the target construct of paternalism. The most important contribution of this study is the introduction of the two new MSQ scales, both of which have good structural and construct validity. They therefore have the potential to serve as an impetus for structural equation modelling in relation to analyzing paths within the four-component model of moral behavior. Given the increase in the number of PAs and NPs throughout the world, such efforts will require validation in a number of countries.

IMPLICATIONS

Healthcare professionals are quite likely to perceive working with patients as a natural calling, prompted by an intrinsic motivation to do good. Such inherent sympathy and empathy, however, which is perceived as beneficent, may become blurred by blind spots with regard to the personal attitudes held by individual clinicians and, consequently, their behavior. With the exception of prejudice, the majority of complaints and disciplinary cases are based on either miscommunication or a feeling on the part of patients that they have been treated discourteously. With this in mind, both the MSQ-DELIB and MSQ- PATER could be used and applied as self-report tools for clinicians who would like to become more aware of their own underlying attitudes (e.g., moral deliberation and paternalism) when communicating with patients. The two scales could also function as a type of "thermometer" with which to assess the moral climate and the work- related moral stress experienced by health employees (Lützén, Blom, Ewalds-Kvist, & Winch, 2010).

REFERENCES

Abma, T. A., Molewijk, B., & Widdershoven, G. A. (2009). Good care in ongoing dialogue. Improving the quality of care through moral deliberation and responsive evaluation. Health Care Analysis, 17(3), 217-235.

Akaike, H. (1974). A new look at the statistical model identification. IEEE Transactions on Automatic Control, 19(6), 716-723.

Ajzen I. The theory of planned behavior. Organ Behav Hum Decis Process. 1991;50(2):179-211.

Bandura A. Moral disengagement in the perpetration of inhumanities. Pers Soc Psychol Rev. 1999;3(3):193-209.

Bandura A, Barbaranelli C, Caprara G. Mechanisms of moral disengagement in the exercise of moral agency. J Pers Soc Psycho. 1996;71 (2):364-374.

Basto, M., & Pereira, J. M. (2012). An SPSS R-menu for ordinal factor analysis. Journal of Statistical Software, 46(4), 1-29.

Beauchamp, T. L., & Childress, J. F. (2001). Principles of biomedical ethics Oxford University Press, USA.

Bebeau, M. J. (2002). The defining issues test and the four-component model: Contributions to professional education. Journal of Moral Education, 31(3), 271-295.

Bernstein, I. H., & Nunnally, J. (1994). Psychometric theory. New York: McGraw-Hill. Oliva, TA, Oliver, RL, & MacMillan, IC (1992).A Catastrophe Model for Developing Service Satisfaction Strategies.Journal of Marketing, 56, 83-95.

Borhani, F., Abbaszadeh, A., Mohamadi, E., Ghasemi, E., & Hoseinabad-Farahani, M. J. (2017). Moral sensitivity and moral distress in Iranian critical care nurses. Nursing Ethics, 24(4), 474-482.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences . Hilsdale. NJ: Lawrence Earlbaum Associates, 2

Costello, A. B. (2009). Getting the most from your analysis. Pan, 12(2), 131-146.

Courtney, M. G. R., & Gordon, M. (2013). Determining the number of factors to retain in EFA: Using the SPSS R-Menu v2. 0 to make more judicious estimations. Practical Assessment, Research & Evaluation, 18(8), 1-14.

Dalla Nora, C. R., Zoboli, E. L., & Vieira, M. M. (2017). Validation of a Brazilian version of the moral sensitivity questionnaire. Nursing Ethics, , 0969733017720849.

De Haan, J. (2001). The Definition of Moral Dilemmas: A Logical Problem. Ethical Theory and Moral Practice: An International Forum, 4(3), 267-284.

Driever, E. M., Stiggelbout, A. M., & Brand, P. L. (2020). Shared decision making: physicians' preferred role, usual role and their perception of its key components. Patient Education and Counseling, 103(1), 77-82.

Emanuel, E. J., & Emanuel, L. L. (1992). Four models of the physician-patient relationship. Jama, 267(16), 2221-2226.

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. Psychological Methods, 4(3), 272.

Falkum, E., & Førde, R. (2001). Paternalism, patient autonomy, and moral deliberation in the physician–patient relationship: Attitudes among Norwegian physicians. Social Science & Medicine, 52(2), 239-248.

Gagne, P., & Hancock, G. R. (2006). Measurement model quality, sample size, and solution propriety in confirmatory factor models. Multivariate Behavioral Research, 41(1), 65-83.

General Assembly of the World Medical Association. (2014). World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects. The Journal of the American College of Dentists, 81(3), 14-18.

Guillemin, F., Bombardier, C., & Beaton, D. (1993). Cross-cultural adaptation of health-related quality of life measures: literature review and proposed guidelines. Journal of Clinical Epidemiology, 46(12), 1417-1432.

Han, S., Kim, J., Kim, Y., & Ahn, S. (2010). Validation of a Korean version of the Moral Sensitivity Questionnaire. Nursing Ethics, 17(1), 99-105.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling: A Multidisciplinary Journal, 6(1), 1-55.

Jacobson, P. (2007). Empowering the physician-patient relationship: The effect of the Internet. Partnership: The Canadian Journal of Library and Information Practice and Research, 2(1)

Kuilman, L., Jansen, G. J., Middel, B., Mulder, L. B., & Roodbol, P. F. (2019). Moral reasoning explained by personality traits and moral disengagement: A study among Dutch nurse practitioners and physician assistants. Journal of Advanced Nursing, 75(6), 1252-1262.

Laurant, M., van de Camp, K., Boerboom, L., & Wijers, N. (2014). Een studie naar functieprofielen, taken en verantwoordelijkheden van Physician Assistants en Verpleegkundig Specialisten. Scientific Institute for Quality of Healthcare Radboudumc: BMJ Publishing Group,

Lützén, K., Blom, T., Ewalds-Kvist, B., & Winch, S. (2010). Moral stress, moral climate and moral sensitivity among psychiatric professionals. Nursing Ethics, 17(2), 213-224.

Lützén, K., Dahlqvist, V., Eriksson, S., & Norberg, A. (2006). Developing the concept of moral sensitivity in health care practice. Nursing Ethics, 13(2), 187-196.

Lützén, K., Evertzon, M., & Nordin, C. (1997). Moral sensitivity in psychiatric practice. Nursing Ethics, 4(6), 472-482.

Lützén, K., Nordström, G., & Evertzon, M. (1995). Moral sensitivity in nursing practice. Scandinavian Journal of Caring Sciences, 9(3), 131-138.

Lützén, K., Evertzon, M., & Nordin, C. (1997). Moral sensitivity in psychiatric practice. Nursing Ethics, 4(6), 472-482. doi: 10.1177/096973309700400604

Lützén, K., Johansson, A., & Nordstrom, G. (2000). Moral sensitivity: some differences between nurses and physicians. Nursing Ethics, 7(6), 520-530.

Maier, C. B. (2015). The role of governance in implementing task-shifting from physicians to nurses in advanced roles in Europe, US, Canada, New Zealand and Australia. Health Policy, 119(12), 1627-1635.

Merkle, F., Ritsema, T. S., Bauer, S., & Kuilman, L. (2011). The physician assistant: Shifting the Paradigm of European medical practice? HSR Proceedings in Intensive Care & Cardiovascular Anesthesia, 3(4), 255-262.

Miles, J., & Shevlin, M. (2007). A time and a place for incremental fit indices. Personality and Individual Differences, 42(5), 869-874.

Newcombe, R. G., & Altman, D. G. (2000). Proportions and their differences. Statistics with Confidence, 2, 45-56.

Olsson, U. (1979). Maximum likelihood estimation of the polychoric correlation coefficient. Psychometrika, 44(4), 443-460.

Pellegrino, E. D. (2006). Toward a reconstruction of medical morality. The American Journal of Bioethics, 6(2), 65-71.

Polit, D. F., & Beck, C. T. (2004). Nursing research: Principles and methods Lippincott Williams & Wilkins.

Quill, T. E., & Brody, H. (1996). Physician recommendations and patient autonomy: finding a balance between physician power and patient choice. Annals of Internal Medicine, 125(9), 763-769.

Raaijmakers Q, Engels R, Van Hoof A. Delinquency and moral reasoning in adolescence and young adulthood. Int J Behav Dev. 2005;29(3): 247-258.

Rest, J. R. (1986). Moral development: Advances in research and theory.

Rest J, Thoma SJ, Narvaez D, Bebeau MJ. Alchemy and beyond: indexing the defining issues test. J Educ Psychol. 1997;89(3):498-507.

Rest JR. DIT manual. Minnesota, MN: Center for the Study of Ethical Development; 1990.

Robinson, J. H., Callister, L. C., Berry, J. A., & Dearing, K. A. (2008). Patient-centered care and adherence: Definitions and applications to improve outcomes. Journal of the American Association of Nurse Practitioners, 20(12), 600-607.

Ruscio, J., & Roche, B. (2012). Determining the number of factors to retain in an exploratory factor analysis using comparison data of known factorial structure. Psychological Assessment, 24(2), 282.

Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. Methods of Psychological Research Online, 8(2), 23-74.

Siegler, M. (1985). The progression of medicine: from physician paternalism to patient autonomy to bureaucratic parsimony. Archives of Internal Medicine, 145(4), 713-715.

Streiner, D. L., Norman, G. R., & Cairney, J. (2015). Health measurement scales: a practical guide to their development and use Oxford University Press, USA.

Tabachnick, B., & Fidell, L. (2007). Multivariate analysis of variance and covariance. Using Multivariate Statistics, 3, 402-407.

Templeton, G. F., & Burney, L. L. (2016). Using a Two-Step Transformation to Address Non-Normality from a Business Value of Information Technology Perspective. Journal of Information Systems,

Yilmaz Sahin, S., Iyigun, E., & Acikel, C. (2015). Validity and reliability of a turkish version of the modified moral sensitivity questionnaire for student nurses. Ethics & Behavior, 25(4), 351-359.

Appendix 1: Instruments used for testing convergent and divergent validity

Behavioral Control targeted at Preventing Harm (BCPH) scale

According to Ajzen, "perceived behavioral control" entails the ease or difficulty that a person experiences in performing a certain behavior. Based on the Hippocratic principle of "First, do no harm," a tool to measure this was required. This was operationalized by employing the concept of "Perceived Control of Preventing Harm." The result was the development of the "Behavioral Control targeted at Preventing Harm" (BCPH) scale, consisting of five items: 1) "I always feel responsible for proper patient care, even if the resources are insufficient"; 2) "My skill in assessing the needs of the patient always helps me in my work"; 3) "I can always properly assess whether and when a patient should be told the truth"; 4) "I can easily sense when a patient is not receiving proper care"; and 5) "In patient care, I am always aware of the balance between performing the task well and the risk of harm to the patient." Items were answered on a 7-point Likert scale equivalent to the MSQ items. Principal Component Analysis with Varimax rotation demonstrated that the BCPH was unidimensional, with factor loadings ranging from 0.54 to 0.83. The BCPH Cronbach's alpha yielded 0.72. Index scores were calculated using the algorithm as employed for the MSQ, with higher scores indicating a stronger behavioral control of abstaining from doing harm

Ethics Advocacy Scale (EAS)

The EAS was operationalized with the intention of measuring the respondent's attitude towards considering the moral aspects of patient-oriented care. The scale comprised three Likert-type items, from 1 (not applicable) to 5 (completely applicable), with the following items: 1) "I think it's important – when there is a good reason to do so – to raise ethical aspects of care during patient care discussions"; 2) "I think it's important to be alert to the ethical implications of the medical treatment I provide"; and 3) "I think it's important for the organization where I work to explicitly focus attention on the medical and ethical aspects of care." In addition to these three questions, a fourth semantic differential slider scale from 0 to 100 – from "completely useless" to "very meaningful" – was used, based on the question: "What is your opinion about applying ethical principles to medical care?" In order to combine the Likert-type items with the semantic differential scale questions, the first three items were also converted

to scales that ran from 0 to 100. An overall score was computed that measured the degree to which the respondents indicated the importance of including ethical aspects in their care. A Principal Component Analysis with Varimax rotation demonstrated the EAS to be unidimensional with factor loadings of 0.74, 0.79, 0.70, and 0.75, respectively. Reliability analysis yielded an acceptable internal consistency reflected by a Cronbach's alpha of 0.72. Higher scores of the EAS indicate a higher disposition to adhere to and advocate ethical standards in care.

Moral Disengagement Scale (MDS)

Within the framework of moral agency, Bandura introduced the mechanisms of moral disengagement to assess individuals' behavior which is in contradiction with their ethical principles without experiencing any form of guilt or shame. The Moral Disengagement Scale (MDS) measures the degree of disengagement of moral self-sanctions from inhumane conduct. Bandura et al. developed the 32-item Moral Disengagement Scale (MDS). Psychometric testing by Bandura et al. demonstrated a unidimensional scale with a Cronbach's alpha of 0.83. For our study, we modified items in the perspective of general healthcare. The scale's Cronbach's alpha of 0.85 in our study was consistent with the findings by Bandura et al. and indicated that translation and adaptation did not affect the internal consistency of the scale. An index score was calculated using the same algorithm as employed for the MSQ. The MDS is an indicator with a continuum ranging from 0 to 100. The lower-end scores reflect the degree of respondents' self-censure, i.e. moral self-control, meaning one refrains from behavior that violates the own moral standard, and the high-end scores indicate a high propensity to morally disengage.

Defining Issues Test (DIT-N2)

The Dutch short-form version of the DIT was used to test the discriminant validity of the MSQ-PATER and MSQ-DELIB subscales. In the DIT (short form) being used, participants were presented with three standard scenario-based moral dilemmas: "Heinz and the drug," "The escaped prisoner," and "The newspaper." Each scenario was followed by eight statements that were meant to evoke the respondent's deliberations in solving the dilemma.

DIT Rating scales

For each moral dilemma, there were eight statements that needed to be rated on a 5-point Likert-type scale ranging from "very unimportant" (1) to "very important" (5), which were considered to be indicative of a specific stage in the level of moral reasoning: (a) maintaining norms, (b) self-interest, and (c) post-conventional.

DIT N2 Index

After rating all the statements for each dilemma, the participant was asked to rank four statements out of eight as "most important," "second in importance," "third in importance," and "fourth in importance." With this data gathered, the P index could be computed by giving 4 points to issues categorized in the post-conventional stage, which the respondent ranked first. Three points were given to each post-conventional issue ranked second, 2 points to post-conventional issues ranked third, and 1 point to post-conventional issues ranked fourth. The P index is a specific assessment of the proportion of ranked issues that are characteristic of post-conventional reasoning. Because the scores of the P index are proportional, they can range from 0 (indicating simple moral reasoning) to 100 (indicating highly complex moral reasoning). In our study the N2 index was used. The N2 index is the successor of the P index and has a two-part construction. Both indices were calculated according to the guidelines of Rest and colleagues. A higher N2 score represents a higher level of moral reasoning.

CHAPTER 3

Moral reasoning explained by personality traits and moral disengagement: *a study among Dutch nurse practitioners and physician assistants.*

Kuilman, L., Jansen, G. J., Middel, B., Mulder, L. B., & Roodbol, P. F. (2019).
Journal of advanced nursing, 75(6), 1252-1262.

ABSTRACT

Aim: To explore the direct and indirect effect of the personality meta-traits 'Stability' and 'Plasticity' on moral reasoning among nurse practitioners and physician assistants.

Background: Moral reasoning is influenced by being prone to moral disengagement and personality traits. Moral disengagement is observed among professionals in many fields, including healthcare providers. Moral disengagement is known to be provoked by environmental stressors and influenced by certain personality traits.

Design: A cross-sectional approach was used including self report questionnaires.

Methods: A convenience sample of Dutch nurse practitioners (N=67) and physician assistants (N=88) was surveyed via online questionnaires between January and March 2015, using: a) the Defining Issues Test; b) the BIG Five Inventory; and c) the Moral Disengagement Scale. Structural equation modeling (SEM) was employed for estimating the construct validity of two meta-traits of personality and to test unidirectional influences on moral reasoning.

Results: Only the Stability trait was a direct predictor of moral reasoning whereas both Stability and Plasticity were precursors of moral disengagement. Both personality meta-traits had statistically significant indirect effects on moral reasoning through a low level of moral disengagement. The influence of both personality traits on the level of moral reasoning was increased by strong self-censure on entering into morally disengaged interactions.

Conclusion: The personality meta-trait 'Stability' is an indicator of moral reasoning and is explained by a lower propensity to morally disengage among highly stable people. Although the meta-trait Plasticity exerts an indirect effect through moral disengagement on moral reasoning, it is not a direct indicator of moral reasoning.

INTRODUCTION

Two decades ago, a medical workforce shortage in the Netherlands was predicted. To overcome the imbalance between the demand and supply of medical care, new professions such as nurse practitioners (NPs) and physician assistants (PAs) were introduced. In the Netherlands, both NPs and PAs are trained at a Master's degree level and are employed in all medical specialties, including general practice (Zwijnenberg & Bours 2012, van den Driesschen & de Roo 2014, van Vught et al. 2014). The NP and PA program last 24 and 30 months respectively and enrolment requires an undergraduate degree in nursing or any paramedical science, besides having at least two years of clinical experience.

From a socio-economic viewpoint, the introduction of NPs and PAs to Dutch society appears to contribute to a satisfactorily level of medical task shifting throughout the healthcare system (Laurant et al. 2008, Schuttelaar et al. 2011, Maten-Speksnijder et al. 2014, Timmermans et al. 2016). Both NPs and PAs are entrusted and legally enabled to autonomous practice (Bruijn-Geraets et al. 2014).

Moreover, when viewing NPs and PAs as advanced practice providers, an important layer in the fundament of their professionalism, namely ethical understanding (Stern & Papadakis 2006), remains underexposed in the literature to date. In their professional codes of conduct, both health professionals are obligated to ethical standards. To adhere to the professional profile and codes of conduct NP and PA students are trained in presenting moral dilemmas experienced in their own daily medical life to explore the meaning of concepts such as: recognizing ethical implications, reflection on central concepts of professionalism in ethical decision-making and moral consultancy. In discussing personally experienced ethical dilemmas the generic principles of no harm, autonomy, non-maleficence, beneficence, justice, truthfulness and honesty and respect for human rights, if relevant, are employed to foster enhanced levels of moral reasoning.

Yet, the NP and PA literature is scarce concerning predictors of moral reasoning as a skill necessary for thorough decision-making in moral dilemmas. This gap in evidence - *not only for Dutch NPs and PAs but globally* -presents an opportunity to explore ethics as a basic requirement for all healthcare professionals. With continuous changing healthcare environments (e.g., working conditions, contextual stressors, the pressing need for cost containment), the assumption is that ethical conflicts are commonly experienced by all healthcare professionals, regardless of their specialization

(Pauly et al. 2012). Factors contributing to moral-conflict-laden situations include: (a) manpower problems; (b) effects of increasing efficiency demands; (c) disturbed increasing hierarchical power; and (d) increasing lack of control over one's own professional conduct (Burston & Tuckett 2013), (Sporrong et al. 2006). These factors may affect the patient-healthcare professional relationship and could lead to the onset of moral dilemmas in this relationship (De Haan 2001).

BACKGROUND

With the Four Component Model of Moral Behavior (FCM), coping with a moral dilemma is assumed as a multi-dimensional process where four factors simultaneously play a role in the decision-making process: a) moral sensitivity; b) moral reasoning; c) moral motivation; and d) moral character (Rest et al. 1999b). Moral sensitivity means that an individual recognizes that a decision has moral aspects and that he/she can properly assess the interests and risks for a patient, the care provider and society. Moral reasoning means that an individual can process information to make a judgment about what action is morally right. Moral motivation entails the importance an individual attaches to enhancing patient interest and the moral character reflects the degree of the individual's ego, strength and implementation skills to ultimately follow his or her intentions.

In the current paper, we zoom in on the component of moral reasoning. Recognizing that individuals may differ in their level of moral reasoning, Kohlberg introduced moral reasoning as the manifestation of an inner-psychological and cognitive-developmental structure that governs action in situations where moral claims conflict (Kohlberg 1969).

Theoretically, moral reasoning is divided into three stages: (a) pre-conventional stage, reflecting considerations characterized as personal-interest (maximizing rewards, obeying authority figures, conforming to perceived external norms and standards); (b) conventional stage, reflecting a perspective wider than self-interest where the importance of doing one's duty and emphasizing legal, religious, or societal precepts are more prevalent in decision- making; and (c) post-conventional (principled) stage of moral reasoning emerging from self- chosen ethical principles that are logical, comprehensive and consistent in the perceptions of those who must make ethical decisions. These stages of moral reasoning were operationalized in the Defining Issues Test (DIT-N2 index) (Rest et al. 1997), which has become widely used.

In contrast to the FCM, Bandura stressed that there is much more involved in the process that regulates human conduct related to solving moral dilemmas (Bandura 1999). Bandura's social cognitive theory (Bandura 1986) suggests that moral reasoning may lead to action, but that it is only possible through self-regulation rooted in one's own moral standard. He proposed that moral self-control can be selectively activated or disengaged (Bandura 1990). Bandura sees this self-influence as a continuous process that motivates and regulates moral conduct.

However, in later work Bandura introduced the concept of moral disengagement or detachment from moral self-control (Bandura et al. 1996). Within the conceptual framework of moral disengagement, he proposed that eight mechanisms play a role in the self-regulatory process of detrimental conduct: moral justification, euphemistic labeling, advantageous comparison, displacement of responsibility, diffusion of responsibility, distorting consequences, attribution of blame and dehumanization. People use these mechanisms to justify behavior that does not comply with their own standard of moral values and beliefs and thus avoid self-sanction (Bandura et al. 1996). As such, moral disengagement is a manifestation of a lack of moral self-regulation.

Moral reasoning and mechanisms of moral disengagement

Carroll (Carroll 2009) reported that moral disengagement negatively correlated (r = -.34, p < .01) with moral reasoning (estimated with the N2 score). This means that people who have a stronger control or self-censure over the tendency to morally disengage exhibit a higher level of moral reasoning. Dineen (2012) explored moral disengagement of medical providers as a contributing factor to ethical decision-making. She found that the reality of clinical practice, which abounds with morally distressing factors, often perpetuates inadequate treatment which occurs through progressive disengagement of self-censure (Dineen 2012).

Moral disengagement and personality

In addition to moral reasoning, personality also correlates with moral disengagement. In research among nurses about bypassing moral and ethical codes, Fida et al. (2015) showed that a higher propensity to morally disengage was associated (r = -.15*) with lower degrees of the Big Five personality trait conscientiousness (Fida et al. 2016). Theoretically, the association between moral disengagement and

conscientiousness is plausible because conscientiousness is the propensity to follow socially prescribed norms for impulse control, to be goal-directed, to plan and to be able to delay gratification (Roberts et al. 2009). This means that people who comply with this definition of conscientiousness are not expected to morally disengage. Costa and McCrae stated that conscientious people tend to think carefully prior to acting and adhere to their moral obligations and perceived responsibilities (Costa & McCrae 1992). Furthermore, several studies that start from the standpoint of viewing moral disengagement as the counterpart to ethical behavior have found positive relationships between ethical behavior and the personality traits agreeableness, conscientiousness and emotional stability (reverse of neuroticism) (Brown & Treviño 2006, Walumbwa & Schaubroeck 2009).

Moral reasoning and personality traits

The personality traits associated with mechanisms of moral disengagement (e.g., openness, agreeableness, neuroticism, or conscientiousness) also correlate with moral reasoning. If, as Chovan suggests, moral reasoning is the process of how people think (denoted as a thinking style) once they are faced with moral dilemmas (Chovan 2007), then the relationship between personality and moral reasoning is plausible. Especially so, because Li-fang Zhang found significant relationships between thinking styles and personality traits (Zhang 2006). However, in considering moral reasoning to be a cognitive process, Mudrack concluded that a direct relationship with personality would not be reasonable (Mudrack 2006). In doing so, he referred to Rest et al. (1999): "Of approximately 150 correlations between the DIT and personality measures, most are non-significant" (Rest et al. 1999b) (p. 108).

Nevertheless, in another study some statistically significant zero-order correlations ($p < .001$) with an explained variance of 9% between moral reasoning (DIT) and the personality traits openness and conscientiousness were found (Dollinger & LaMartina 1998). This finding was confirmed in the study among students. Furthermore, Derryberry and colleagues observed a statistically significant, positive correlation ($r = .18^{*}$) between openness and post- conventional moral reasoning (Derryberry et al. 2005). Another study assessing the relationship between the Big Five personality traits and moral reasoning (Athota et al. 2009) found statistically significant correlations between an indicator of moral reasoning (assessed with the Mach IV) and the personality traits extraversion ($r = .28^{**}$), agreeableness ($r = .23^{**}$), emotional stability ($r = .21^{*}$) and openness ($r = .41^{**}$).

All in all, the above literature does not paint a consistent picture of the direct relationship between the Big Five personality traits and moral reasoning. Openness seems to most consistently have positive relationships with moral reasoning, but this trait is not directly conceptually one that would be considered characteristic of a moral person. The other traits (i.e., conscientiousness, agreeableness, emotional stability (reverse of neuroticism) and extraversion) do not always consistently correlate with moral reasoning. We, therefore, conclude that the outcomes are neither consistent nor reproducible across varying study populations.

Higher-order meta-traits of personality

One reason for the inconsistent results could be the systematically known autocorrelations between these personality traits (Costa & McCrae 1992), which hamper the study of the independent effect of the Big Five traits. To address the issue of autocorrelation, researchers measure personality at a higher aggregation level. First, Digman transformed the Big Five components into two higher-order meta-traits of personality, denoted as α and β (Digman 1997). The α factor comprises the following Big Five personality traits: conscientiousness, agreeableness and emotional stability (reverse of neuroticism); the β factor comprises the traits extraversion and openness.

These two higher-order components were tested by DeYoung, Peterson and Higgins with the α factor labeled 'Stability' and the β factor 'Plasticity' (DeYoung et al. 2002). They were then confirmed by Van der Linden, Te Nijenhuis and Bakker in a meta-analysis across several studies (Van der Linden et al. 2010). The meta-trait Stability reflects the extent to which an individual is consistent in motivation and avoids social interactions and disruptions in mood, while Plasticity reflects the extent to which a person actively searches for new and rewarding experiences, or explores and engages flexibly with novelty, both intellectual and social (DeYoung 2006, Van der Linden et al. 2010). Stability aligns with the idea that certain personality traits (i.e., agreeableness, conscientiousness, emotional stability) may be considered indicators of moral personality (Brown & Treviño 2006, Walumbwa & Schaubroeck 2009, Kalshoven et al. 2011). Especially so, because the shared variance of agreeableness, conscientiousness and emotional stability reflects characteristics such as trust, straightforwardness, altruism, self-discipline, orderliness and achievement-striving: all characteristics one may expect from moral people (DeYoung et al. 2002).

THE STUDY

Aims

This study has two aims: 1) to examine whether there are relationships between moral reasoning and the personality meta-traits Stability and Plasticity; and 2) to assess whether the propensity to morally disengage explains these relationships. The practical relevance of testing the measurement model (Figure 1) in this study lies in the fact that moral reasoning is not a singular event in the ethical decision-making process. If indeed personality traits and mechanisms of moral disengagement are, respectively, influencing and intervening variables, this might have implications for the selection and training of healthcare professionals.

Study design and participants

A cross-sectional approach was used including self-report questionnaires. We recruited 155 nurse practitioners and physician assistants from five PA programs and one NP program in the Netherlands.

Procedure

The program administrators of these six programs sent their alumni an information letter about this study. By activating a hyperlink to a web-based system in this letter, each respondent could: (a) indicate that he or she was informed about the aim and method of the study; and (b) agree to the use of their e-mail address. Agreeing to participate was considered informed consent. Afterwards, they each received the access key to the web-based set of questionnaires. A total of 294 subjects were willing to participate: 176 PAs and 118 NPs. Data collection was between January - March 2015. By the closure of the online survey, 88 PAs and 67 NPs had completed all the questionnaires. Since no data were received from the remaining 139 respondents, we acquired no information from them that could be used to test for selection bias.

Ethical considerations

According to the statement by the Central Committee on Research Involving Human Subjects (www.ccmo.nl), no internal review board approval was warranted for this type of survey study among volunteer professionals. An information letter sent to all respondents informed them about: a) the purpose of the study; b) the

fact that participation was voluntary; and c) that they could end their participation in the study at any time. Respondents were also informed that their answers were completely anonymous and would not be used for any purpose other than the study. Furthermore, the letter clearly addressed the expected average completion time (45 minutes) for filling out the questionnaires.

This study was performed in accordance with the tenets of the Declaration of Helsinki (General Assembly of the World Medical Association 2014). Only the first author (LK) had access to the encrypted data. The questionnaires were filled out using Qualtrics software (version January-December 2016). All questions were forced-choice, which produced no information bias due to missing values in scale construction and statistical analysis.

Data analysis

Prior to analysis, all continuous variables (except the standardized N2-index) were transformed into approximately normal distributed indicators by the two-step transformation process (Templeton & Burney 2016).

Bivariate analysis

For categorical data, we used the chi-square test (Fisher's exact tests for 2 x 2 contingency tables) and the difference between proportions test (Newcombe & Altman 2000). For continuous variables, we used student t-test for independent samples.

Multivariate analysis

Structural equation modelling (SEM) only allows testing of unidirectional effects among multiple continuous dependent and independent variables. Therefore, SEM was more appropriate for our study than standard multiple regression techniques because it allows simultaneous assessment of the strength and direction of the interrelationships.

To test the theoretical model against the observed data, we applied SEM. The structural model concerned the direct and indirect effects of Stability and Plasticity on moral reasoning. Both the direct and indirect effects (through moral disengagement) were estimated in a path analysis. As our sample size (N = 155) was rather small, we decided to perform a bootstrapped SEM by replicating the sample twice. As

suggested by Bentler and Bonett, we used multiple criteria to judge the model fit (Bentler & Bonett 1980). These criteria were: (a) non-significant chi-square, indicating that a non-significant proportion of variance in the data remains unexplained (Kline 1998); (b) root mean square error of approximation (RMSEA) less than 0.06, indicating a good fit to the data (Browne & Cudeck 1993); (c) comparative fit index (CFI) > 0.97, indicating good fit (Schermelleh-Engel et al. 2003); and (d) Tucker- Lewis Index (TLI, also known as the non-normed fit index). Both CFI and RMSEA were used because it has been argued that they provide more stable and accurate estimates than several of the other fit indices (Hu & Bentler 1999). Bivariate and statistical analyses were performed using SPSS 25 for Windows. All multivariate statistical analyses were executed using STATA 14.0.

Measurements

Sociodemographic characteristics

For comparability testing of the NP and PA samples, background characteristics were collected, namely: gender, age, religious beliefs and political affiliation. Additionally, respondents were asked to typify their working environment as (a) 'working in a hospital'; (b) 'in general practice'; (c) 'in mental health care'; (d) 'in mentally disabled care'; or (e) 'other'.

Validity, reliability and rigour of the instruments

Three instruments were used as indicators for the constructs of interest: (a) the Defining Issues Test, measuring the level of moral reasoning; (b) the Big Five Inventory, for measuring personality traits and construing the meta-traits; and (c) the Moral Disengagement Scale, measuring the propensity to morally disengage. These three instruments were translated into Dutch according to the procedure proposed by Guillemin and colleagues (Guillemin et al. 1993). First, the original English versions of the questionnaires were translated into Dutch by two certified translators working independently. Second, two more certified translators each translated these Dutch translations back into English. The resulting English versions were compared with the originals and all discrepancies were discussed by three researchers who spoke both Dutch and English. The remaining discrepancies were discussed with a native English speaker from the University of Groningen Language Centre. For a detailed description of the instruments, see Appendix 1.

RESULTS

This study had a total response rate of 52.7% (i.e., 155/294 completed all the questionnaires). Table 1 shows an overview of the sociodemographic characteristics stratified by NPs and PAs. Physician assistants (mean age 42.5 years) are statistically significant (p < .001) younger compared with nurse practitioners (mean age 48.8 years). However, NPs and PAs did not differ in terms of gender (p= .05), religion (p= .54) and work setting (p= .58) Moreover, the prevalence of politically conservative and liberal orientation also did not differ significantly (p= .14) across both professions.

Table 1: Socio-demographic characteristics stratified by NPs and PAs

Sociodemographic characteristics		Physician Assistant *N = 88*	Nurse Practitioner *N = 67*	Total *N = 155*	(p-value)
Age mean (SD)		42.5 (8.4)	48.8 (8.7)	45.2 (9.1)	< .001#
Gender	Female N (%)	56 (63.6)	53 (79.1)	109 (70.3 %)	.05$
	Male N (%)	32 (36.4)	14 (20.9)	46 (29.7 %)	
Religion	Not religious	48 (54.5)	35 (52.3)	83 (53.5 %)	.54$
	No denomination, but spiritual	3 (3.4)	4 (4.5)	7 (4.5 %)	
	Christian	35 (39.8)	25 (37.3)	60 (38.7 %)	
	Islam	1 (1.1)	0	1 (0.7 %)	
	Other religions	1	3 (4.5)	4 (2.6 %)	
Working environment	Hospital, N (%)	64 (72.7 %)	49 (73.1%)	113 (72.9 %)	.58$
	General practice, N (%)	13 (14.8 %)	7 (10.5 %)	20 (12.9 %)	
	Mental health, N (%)	3 (3.4 %)	6 (9 %)	9 (5.8 %)	
	Disability care, N (%)	1 (1.1 %)	1 (1.5 %)	2 (1.3 %)	
	Other, N (%))	7 (8 %)	4 (5.9 %)	11 (7.1 %)	
Political orientation	Conservative N (%)	15 (17 %)	6 (9 %)	21 (13.5 %)	.14$
	Liberal N (%)	73 (83 %)	61 (91 %)	134 (86.5 %)	

= independent-sample t-test; $ = difference between proportions test

*p < 0.05; ** p <0.01

Differences between NPs and PAs across instruments

Regarding moral reasoning (N2), no statistically significant difference (p = .24) between NPs (*mean* = 28.3; *SD* = 12.5) and PAs (*mean* = 30.7; *SD* = 12.1) occurred. Non- significant differences also accounted for the personality meta-traits Stability (NPs: *mean* = 45.3, *SD* = 18.9; PAs: *mean* = 50.1, *SD* = 21.2; p = .15) and Plasticity (NPs: *mean* = 58.7, *SD* = 15.0; PAs: *mean* = 53.73, *SD* = 20.0; p = .08). With respect to moral disengagement (Moral Disengagement Scale), also no statistically significant differences emerged: NPs (*mean* = 20.3; *SD* = 9.4) and PAs (*mean* = 21.5; *SD* = 7.8), p = .39. Based on these results, merging the samples for analyses was considered justified

Higher-order meta-traits of Personality

For assessing the two meta-traits Stability and Plasticity using the Big Five Inventory (BFI) we followed the factor analytical steps as employed by Van der Linden et al. (2010). The criterion of eigenvalue >1 and oblique rotation methods initially led to a two-factor solution. The first factor had an eigenvalue of 2.0 and explained 40% of the Big Five variance. Conscientiousness, agreeableness and emotional stability (i.e., the reverse of neuroticism) loaded highly on this first factor (.71, .82 and -.55, respectively). This first factor is similar to the factor Stability or α found by others (Digman 1997, DeYoung et al. 2002, Van der Linden et al. 2010). The second factor had an eigenvalue of 1.0 and explained 21% of the variance. Openness and extraversion loaded substantially on this factor (.91 and .57, respectively) while van der Linden and colleagues found loadings of .99 and .39, respectively. This factor is similar to Plasticity or β (Van der Linden et al. 2010).

We applied confirmatory factor analysis using maximum likelihood estimates to test the factorial structure of the two components α and β as a result of exploratory factor analysis (EFA) against our data. Hypothesizing and testing the two meta-factors - where Stability comprised conscientiousness, agreeableness and neuroticism, while Plasticity encompassed openness and extraversion - yielded a good model fit. The items of the Big Five Inventory loaded as expected on the two meta-factors (see Figure 1) with the following parameters: χ^2 = 3.341, *df* = 4, p = .506, RMSEA = .001, CFI = 1.00, TLI = 1.023. Both Stability and Plasticity also demonstrated good internal consistencies, with Cronbach's alphas of .79 and .80, respectively

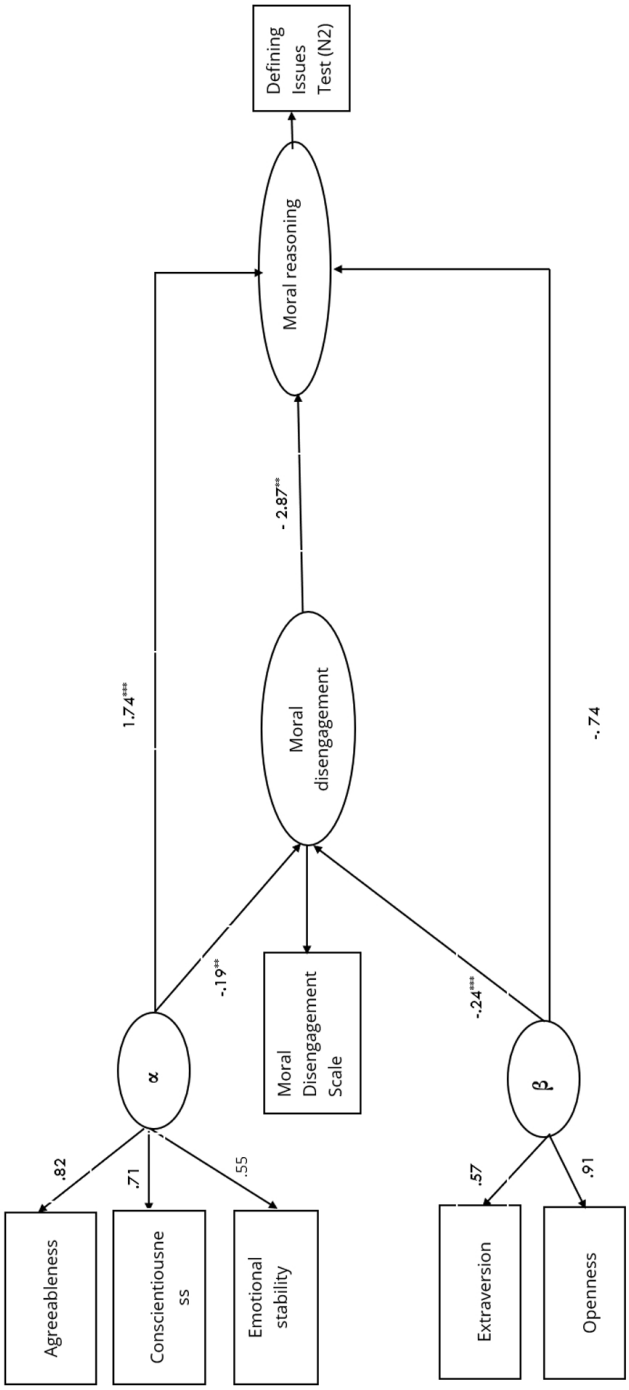


Figure 1: Path model of personality traits as direct predictors of extent of moral disengagement, moral reasoning and indirect predictors of moral reasoning (mediated by extent of moral disengagement)

Path analysis of personality, moral reasoning and mechanisms of moral disengagement

The tenability of the hypothesized model (as depicted in Figure 1) was tested to address the study aim. Prior to SEM, correlation analysis among the variables of interest was performed (See Table 2).

Table 2: Correlation matrix of all variables prior to inclusion in SEM

	Stability (α)	Plasticity (β)	Moral disengagement
Stability (α)			
Plasticity (β)	.33**		
Moral disengagement	-.27**	-.30**	
Moral reasoning	.18*	,06	-.25**

*$p < 0.05$; ** $p < 0.01$

Path analysis confirmed that Stability regressed statistically significantly ($\beta = 1.74^{**}$) on moral reasoning but did not account for Plasticity toward moral reasoning ($\beta = -.74$). Direct paths from Stability and Plasticity to moral disengagement had negative beta coefficients, indicating that moral self-control is increased by having more characteristics that belong to both personality traits ($\beta = -.19^{**}$ and $\beta = -.24^{**}$, respectively). The influence of both personality traits also increased the influence of lower levels of moral disengagement on moral reasoning ($\beta = -2.87$).

Furthermore, in the relationships between Stability and Plasticity with moral reasoning, statistically significant indirect effects ($\beta = 0.54^{*}$ and $\beta = 0.68^{**}$, respectively), occurred through moral disengagement. However, due to the absence of a direct effect from Plasticity on moral reasoning, moral disengagement only mediated the relationship between Stability and moral reasoning (See Table 3 for path coefficients and the related confidence intervals).

Table 3: Structural equation model with Maximum Likelihood Estimates and indirect effects (n= 155)

Structural	**Coefficient**	**Standard Error**	**z**	**P > | z |**	**95 % Confidence Interval**
Moral disengagement <-					
Stability (α)	-.19	.064	-3.16	**0.00**	-.31 >-.07
Plasticity (β)	-.24	.003	-72.25	**0.00**	-.24 >-.23
_cons	.02	.022	1.00	0.38	-.02 > .07
Moral reasoning <-					
Moral disengagement	-2.87	.482	-5.94	**0.00**	-3.81 >-1.92
Stability (α)	1.74	.750	2.33	**0.02**	.27 > 3.21
Plasticity (β)	-.74	.543	-1.36	0.17	-1.81 > .32
_ cons	29.68	1.373	21.62	0.00	26.99 > 32.37
Indirect effects	**Coefficient**	**Standard Error**	**z**	**P > | z |**	**95 % Confidence Interval**
Moral reasoning <- Moral disengagement					
Stability (α)	.54	.26	2.06	**0.04**	.027 > 1.06
Plasticity (β)	.68	.12	5.49	**0.00**	.43 > .92

Bold numbers are at least statistically significant at P < 0.05

The model yielded good model fit, considering the following fit parameters: RMSEA = .003, CFI = 1.000 and TLI = 1.000. The substantially lower Akaike Information Criterion (AIC) of 2477, derived from the model with the two meta-traits, compared with a model where the five personality traits were included separately (AIC = 3706), proved the advantage of using the two meta-traits Stability and Plasticity (Akaike 1974).

DISCUSSION

With this study, we aimed to discover whether there is a relationship between the personality meta-traits Stability and Plasticity and the level of moral reasoning and to assess whether the propensity to morally disengage explains those relationships. SEM (i.e., path analysis) provided evidence that only Stability directly increased the level of moral reasoning. This finding adds to the literature on the effect of personality traits on moral reasoning. Little previous research has addressed this question and has yielded fragmented and inconsistent outcomes and assumptions. For example, while Rest and colleagues claimed that personality traits should have weak associations with cognitive moral development (Rest et al. 1999a), several other researchers found associations between the Big Five personality traits and moral reasoning (Dollinger & LaMartina 1998, Derryberry et al. 2005, Athota et al. 2009). Notwithstanding, these findings seem rather an exception to the rule, especially considering Rest et al.'s (1999) claim that "of approximately 150 correlations between the DIT and personality measures, most are non-significant" (p. 108). One reason that findings appear neither consistent nor non-significant across varying populations might be autocorrelation among the Big Five personality traits. Transforming the Big Five personality traits into the higher-order, meta-traits Stability (α) and Plasticity (β) address the issue of autocorrelation. Our finding that Stability predicted the level of moral reasoning supports the idea that the latent trait personality-stability represents characteristics that reflect a 'moral person', as suggested by Brown and Treviño, 2006; Kalshoven, Den Hartog and De Hoogh, 2011 and Walumbwa and Schaubroeck, 2009.

The second finding from this study is that Stability and Plasticity influence the level of moral disengagement. To our knowledge, our study is the first to investigate the relationship between these personality meta-traits and moral disengagement. While there was already evidence that separate Big Five traits are related to moral disengagement (Stevens 2010, Kish-Gephart et al. 2014, Fida et al. 2016), our data reveals that Stability and Plasticity also predict moral disengagement. These findings also suggest that Stability and Plasticity contribute to moral self-regulation.

This study also found that people with a low propensity to morally disengage (i.e., high levels of moral self-control) tend to judge at higher levels of moral reasoning. This supports Bandura's assumption that a higher level of moral reasoning is also determined by exerting moral self-control (Bandura 1991). Even though this finding

is not new, it is consistent with (albeit stronger than) the effect as shown in a study by Carroll (2009). This repeated result demonstrates the robustness of Bandura's theoretical assumption when applied to a different population.

Furthermore, the outcomes of this study provide novel evidence that Stability and Plasticity have an indirect effect on the level of moral reasoning through moral disengagement. The mediating effect of moral disengagement on the relationship between Stability and Plasticity with moral reasoning has never been examined before. Although the results show that Stability and Plasticity both have an indirect effect on moral reasoning through moral disengagement, we can only conclude that moral disengagement is an explanatory factor in the trait-moral reasoning relationship for Stability and not for Plasticity, since no direct effect between Plasticity and moral reasoning was found.

Thus, our findings suggest that stable people reason on a higher moral level because they are more able to exert moral self-control. This higher moral self-control is plausible considering the characteristics of the Stability personality type, because of the tendencies to be more self-disciplined, persistent, thorough, responsible, consistent in emotions and social interaction and sensitive to interpersonal conflicts. Possessing such qualities might mean that stable people can more strongly inhibit themselves from engaging in self-serving cognitive morally disengaging strategies and can thus remain at a mature level of moral reasoning.

Although we also found that Plasticity has an indirect effect on moral reasoning through moral disengagement, Plasticity does not exert a direct effect on moral reasoning. Therefore, we are reluctant to conclude that Plasticity's effect on moral reasoning is mediated by moral disengagement. That may be the case, but it may also be mediated by other factors working in the opposite direction. For example, Plasticity may increase creativity, which decreases moral reasoning since creative people are more likely to think of moral rationalizations for immoral actions (Gino & Ariely 2012). However, more research is needed to investigate such possible confounders.

Practical implications

Working as a healthcare professional is demanding. The challenges arising from economic constraints imposed by health insurers - as well as factors such as the increasing demands of employers and increasingly empowered patients, in contrast

to a desire to deliver the same standard of quality care - may evoke moral dilemmas. The curriculums used to train healthcare professionals addresses professionalism to some extent, by way of courses including clinical ethics. The literature makes note of such courses in training programs for professionals such as nurses, physical therapists, pharmacists and medical doctors. However, these courses largely emphasize moral reasoning (Self et al. 1993, Duckett et al. 1997, Dieruf 2004, Prescott et al. 2014). The outcomes of our study provide evidence that training programs can only increase moral reasoning strategies to a certain extent. After all, the level of moral reasoning is a function of the Stability personality type and personality is largely stable over a person's lifespan (McCrae & Costa Jr 1999) (p. 145). Therefore, another way to foster principled moral reasoning among healthcare professionals would be to use the Big Five as a selection tool and select for the Stability personality type when hiring personnel. It is now common to include personality assessments in job application procedures. Selecting people with the Stability personality type might be of special importance in disciplines that are known to have a difficult moral climate (e.g., palliative care, intensive care).

Another important finding in this study is that the relationship between Stability and moral reasoning is mediated by moral disengagement. Considering that disengagement from moral self-control is "malleable to external influences over time" (Paciello et al. 2008), something could be done to "unlearn" people's tendency to morally disengage. In this view, it is advisable, in ethics courses, to counter the force of moral disengagement by practicing health practitioners (especially those who score low on the factor Stability) to morally *engage* instead. This is in line with the Aristotelian view that, although virtues are character traits, virtues are trainable. More specific, according to Aristotle, by practicing virtue, individuals acquire virtue (Urmson 1988). This practicing is a rational process and involves finding a balance between extremes (for example, finding the balance of "honesty" between the extremes of "secrecy" and "talkativeness" and finding the balance of "courage" between the extremes of "cowardice" and "rashness") (Larkin et al. 2009). Thus, in ethical training courses, students and healthcare professionals can not only be made aware that disengaging from moral self-control is non-virtuous (as it can cause harm and create a pathological basis for professional conduct) but can also be trained into mechanisms of moral engagement by practicing virtuous behaviors. This could be done by training in programs using simulation exercises (e.g., with standardized patients).

Strengths and limitations

Although this study's findings are novel and contribute to understanding the influence of personality structures and mechanisms of moral disengagement on the level of principled moral reasoning, some methodological weaknesses should be addressed. First, the study data were derived from a cross-sectional sample, which confines the researchers to drawing causal conclusions. Second, one could dispute the appropriateness of performing path analyses on data retrieved from cross-sectional collected self-report measures. This is especially true because the collected data may be subject to some extent of common method bias. However, prior to performing the path analysis, we used Harman's single-factor test to confirm that a single factor accounted for only 10.1% and thus less than the majority (i.e., 50%) of the variance in our data (Podsakoff & Organ 1986). This indicates that, although there was likely some shared common method variance, it should have little to no effect on the conclusions drawn.

Finally, our findings may not be generalizable to populations outside the NP and PA workforces. Nevertheless, their sociodemographic characteristics are comparable to those of the national workforces at large, which makes the results generalizable to the population of NPs and PAs. In addition, this study involved NPs and PAs from the Netherlands, which may imply that the model should be tested in other countries that employ these types of healthcare professionals.

CONCLUSION

The personality meta-trait Stability is an indicator of the level of moral reasoning among Dutch NPs and PAs. This is explained by a lower propensity to morally disengage among highly stable people. In contrast, the meta-trait Plasticity also exerted an indirect effect on moral reasoning through moral disengagement, but it was not a direct indicator of moral reasoning.

REFERENCES

Akaike H. (1974) A new look at the statistical model identification. IEEE transactions on automatic control 19(6), 716-723.

Athota V.S., O'connor P.J. & Jackson C. (2009) The role of emotiona intelligence and personality in moral reasoning.

Bandura A. (1986) Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ, US: Prentice-Hall, Inc.

Bandura A. (1990) Selective activation and disengagement of moral control. Journal of Social Issues 46(1), 27-46.

Bandura A. (1991) Social cognitive theory of self-regulation. Organizational behavior and human decision processes 50(2), 248-287.

Bandura A., Barbaranelli C., Caprara G.V. & Pastorelli C. (1996) Mechanisms of moral disengagement in the exercise of moral agency. Journal of personality and social psychology 71(2), 364.

Bandura A. (1999) Social cognitive theory of personality. Handbook of personality: Theory and research, 154-196. Elsevier.

Bentler P.M. & Bonett D.G. (1980) Significance tests and goodness of fit in the analysis of covariance structures. Psychological bulletin 88(3), 588.

Brown M.E. & Treviño L.K. (2006) Ethical leadership: A review and future directions. The leadership quarterly 17(6), 595-616.

Browne M.W. & Cudeck R. (1993) Alternative ways of assessing model fit. Sage focus editions 154, 136-136.

Bruijn-Geraets D., Daisy P., Eijk-Hustings V., Yvonne J. & Vrijhoef H.J. (2014) Evaluating newly acquired authority of nurse practitioners and physician assistants for reserved medical procedures in the Netherlands: a study protocol. Journal of advanced nursing 70(11), 2673-2682.

Burston A.S. & Tuckett A.G. (2013) Moral distress in nursing: contributing factors, outcomes and interventions. Nursing ethics 20(3), 312-324.

Carroll J.A. (2009) Impact of moral judgment and moral disengagement on rape-supportive attitudes in college males. The University of Alabama.

Chovan W. (2007) Some notes on the relation of moral reasoning and personality. Psychological reports 101(1), 61-66. power analysis for the behavioral sciences 2nd edn. Erlbaum Associates, Hillsdale.

Costa P.T. & McCrae R.R. (1992) NEO PI-R Professional Manual.Odessa, FL Psychological Assessment Resources.

De Haan J. (2001) The definition of moral dilemmas: A logical problem. Ethical Theory and Moral Practice 4(3), 267-284.

Denissen J.J., Geenen R., Van Aken M.A., Gosling S.D. & Potter J. (2008) Development and validation of a Dutch translation of the Big Five Inventory (BFI). Journal of personality assessment 90(2), 152-157.

Derryberry W.P., Wilson T., Snyder H., Norman T. & Barger B. (2005) Moral judgment developmental differences between gifted youth and college students. *Journal of Secondary Gifted Education* 17(1), 6-19.

DeYoung C.G., Peterson J.B. & Higgins D.M. (2002) Higher-order factors of the Big Five predict conformity: Are there neuroses of health? *Personality and Individual differences* 33(4), 533-552.

DeYoung C.G. (2006) Higher-order factors of the Big Five in a multi- informant sample. *Journal of personality and social psychology* 91(6), 1138.

Dieruf K. (2004) Ethical decision-making by students in physical and occupational therapy. *Journal of allied health* 33(1), 24-30.

Digman J.M. (1997) Higher-order factors of the Big Five. *Journal of personality and social psychology* 73(6), 1246.

Dineen K.K. (2012) Moral disengagement of medical providers: Another clue to the continued neglect of treatable pain. *Hous.J.Health L.& Pol'y* 13, 163.

Dollinger S.J. & LaMartina T.K. (1998) A note on moral reasoning and the five-factor model. *Journal of Social Behavior and Personality* 13(2), 349.

Duckett L., Rowan M., Ryden M., Krichbaum K., Miller M., Wainwright H. & Savik K. (1997) Progress in the moral reasoning of baccalaureate nursing students between program entry and exit. *Nursing research* 46(4), 222-229.

Fida R., Tramontano C., Paciello M., Kangasniemi M., Sili A., Bobbio A. & Barbaranelli C. (2016) Nurse moral disengagement. *Nursing ethics* 23(5), 547-564.

General Assembly of the World Medical Association (2014) World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects. *The Journal of the American College of Dentists* 81(3), 14-18.

Gino F. & Ariely D. (2012) The dark side of creativity: original thinkers can be more dishonest. *Journal of personality and social psychology* 102(3), 445.

Guillemin F., Bombardier C. & Beaton D. (1993) Cross-cultural adaptation of health-related quality of life measures: literature review and proposed guidelines. *Journal of clinical epidemiology* 46(12), 1417-1432.

Hu L. & Bentler P.M. (1999) Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal* 6(1), 1-55.

John O.P., Donahue E.M. & Kentle R.L. (1991) The big five inventory— versions 4a and 54. Berkeley, CA: University of California.

Kalshoven K., Den Hartog D.N. & De Hoogh A.H. (2011) Ethical leader behavior and big five factors of personality. *Journal of Business Ethics* 100(2), 349-366.

Kish-Gephart J., Detert J., Treviño L.K., Baker V. & Martin S. (2014) Situational moral disengagement: Can the effects of self-interest be mitigated? *Journal of Business Ethics* 125(2), 267-285.

Kline R. (1998) Principles and practice of structural modeling. New York: The Guilford Press.

Kohlberg L. (1969) Stage and sequence: The cognitive-developmental approach to socialization. Rand McNally.

Larkin, G. L., Iserson, K., Kassutto, Z., Freas, G., Delaney, K., Krimm, J., Schmidt T., Simon J., Calkins A. & Adams, J. (2009) Virtue in emergency medicine. Academic Emergency Medicine, 16(1), 51-55.

Laurant M.G., Hermens R.P., Braspenning J.C., Akkermans R.P., Sibbald B. & Grol R.P. (2008) An overview of patients' preference for and satisfaction with, care provided by general practitioners and nurse practitioners. Journal of Clinical Nursing 17(20), 2690-2698.

Maten-Speksnijder A., Grypdonck M., Pool A., Meurs P. & Staa A.v. (2014) A literature review of the Dutch debate on the nurse practitioner role: efficiency vs. professional development. International nursing review 61(1), 44-54.

McCrae R.R. & Costa Jr P.T. (1999) A five-factor theory of personality. Handbook of personality: Theory and research 2, 139-153.

Mudrack P.E. (2006) Moral reasoning and personality traits. Psychological reports 98(3), 689-698.

Newcombe R.G. & Altman D.G. (2000) Proportions and their differences. Statistics with confidence 2, 45-56.

Paciello M., Fida R., Tramontano C., Lupinetti C. & Caprara G.V. (2008) Stability and change of moral disengagement and its impact on aggression and violence in late adolescence. Child development 79(5), 1288-1309.

Pauly B.M., Varcoe C. & Storch J. (2012) Framing the issues: moral distress in health care. 24(1), 1-11. In Hec Forum. Springer Netherlands.

Podsakoff P.M. & Organ D.W. (1986) Self-reports in organizational research: Problems and prospects. Journal of management 12(4), 531-544.

Prescott J., Becket G. & Wilson S.E. (2014) Moral development of first-year pharmacy students in the United Kingdom. American Journal of Pharmaceutical Education 78(2), 36.

Raaijmakers Q., Engels R. & Van Hoof A. (2005) Delinquency and moral reasoning in adolescence and young adulthood. International Journal of Behavioral Development 29(3), 247-258.

Rest J., Thoma S.J., Narvaez D. & Bebeau M.J. (1997) Alchemy and beyond:Indexing the Defining Issues Test. Journal of educational psychology 89(3), 498.

Rest J., Narvaez D., Bebeau M. & Thoma S. (1999a) A neo-Kohlbergian approach: The DIT and schema theory. Educational Psychology Review 11(4), 291-324.

Rest J.R., Thoma S.J. & Bebeau M.J. (1999b) Postconventional moral thinking: A neo-Kohlbergian approach. Psychology Press.

Roberts B.W., Jackson J.J., Fayard J.V., Edmonds G. & Meints J. (2009) Conscientiousness.

Schermelleh-Engel K., Moosbrugger H. & Müller H. (2003) Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. Methods of psychological research online 8(2), 23-74.

Schuttelaar M., Vermeulen K. & Coenraads P. (2011) Costs and cost-effectiveness analysis of treatment in children with eczema by nurse practitioner vs. dermatologist: results of a randomized, controlled trial and a review of international costs. British Journal of Dermatology 165(3), 600-611.

Self D.J., Baldwin Jr D.C. & Olivarez M. (1993) Teaching medical ethics to first-year students by using film discussion to develop their moral reasoning. Analysis 4, 109.

Sporrong S.K., Höglund A.T. & Arnetz B. (2006) Measuring moral distress in pharmacy and clinical practice. Nursing ethics 13(4), 416-427.

Stern D.T. & Papadakis M. (2006) The developing physician—becoming a professional. New England Journal of Medicine 355(17), 1794-1799.

Stevens G.W. (2010) Moral Disengagement from an Organizational Justice Perspective: An Exploratory Study.

Templeton G.F. & Burney L.L. (2016) Using a Two-Step Transformation to Address Non- Normality from a Business Value of Information Technology Perspective. Journal of Information Systems 31(2), 149-164.

Timmermans M.J., Vught A.J., Van den Berg M., Ponfoort E.D., Riemens F., Unen J., Wobbes T., Wensing M. & Laurant M.G. (2016) Physician assistants in medical ward care: a descriptive study of the situation in the Netherlands. Journal of evaluation in clinical practice 22(3), 395-402.

Urmson, J. O. (1988). Aristotle's ethics. Basil Blackwell, Oxford

Van den Driesschen Q. & de Roo F. (2014) Physician assistants in the Netherlands. Journal of the American Academy of Physician Assistants 27(9), 10-11.

Van der Linden D., te Nijenhuis J. & Bakker A.B. (2010) The general factor of

personality: A meta-analysis of Big Five intercorrelations and a criterion-related validity study. Journal of research in personality 44(3), 315 327.

Van Vught A.J., van den Brink G.T. & Wobbes T. (2014) Implementation of the physician assistant in Dutch health care organizations: primary motives and outcomes. The health care manager 33(2), 149-153.

Walumbwa F.O. & Schaubroeck J. (2009) Leader personality traits and employee voice behavior: mediating roles of ethical leadership and work group psychological safety. Journal of applied psychology 94(5), 1275.

Zhang L. (2006) Thinking styles and the big five personality traits revisited. Personality and Individual Differences 40(6), 1177-1187.

Zwijnenberg N.C. & Bours G.J. (2012) Nurse practitioners and physician assistants in Dutch hospitals: their role, extent of substitution and facilitators and barriers experienced in the reallocation of tasks. Journal of advanced nursing 68(6), 1235-1246.

Appendix 1: an overview of used measures

Instrument	Detailed description
Defining Issues Test (N2)	To assess the level of moral reasoning in this study we used the Dutch short-form version of the Defining Issues Test (DIT) (Raaijmakers et al. 2005). In the DIT (short form) participants were presented with three, scenario-based, moral dilemmas: "Heinz and the drug," "The escaped prisoner," and "The newspaper". Each scenario was followed by eight statements that were meant to evoke the respondent's deliberations in solving the dilemma. ***DIT Rating scales.*** For each moral dilemma, eight statements had to be answered on a 5-point Likert-type scale ranging from "very unimportant" (1) to "very important" (5), and were considered to be indicative of a specific stage in the level of moral reasoning: (i) Personal interest, (ii) Maintaining norms, and (iii) Post-conventional, respectively. After rating all eight statements for each dilemma, the participant was asked to rank four statements out of eight as "most important," "second in importance," "third in importance," and "fourth in importance". ***N2 Index.*** The N2 index is the successor of the conventional P index and has a two-part construction. The first part reflects the degree to which post-conventional arguments are prioritized in solving the moral dilemmas presented. This part of the N2 index resembles both the traditional P index (calculated solely on the basis of ranking data) and rating data reflecting the degree to which higher-stage arguments are rated higher than the ratings of lower-stage arguments, by subtracting lower-stage reasoning scale scores from the ratings on higher-stage reasoning scale scores. After standardizing the scores of the second part in such a way that both parts show the same mean and standard deviation, the N2 score is computed by adding the resulting scores of the two parts. The N2 index was calculated, as explained by Rest and colleagues (Rest et al. 1997). A higher N2 score represents a higher level of moral reasoning.

Instrument	Detailed description
Big Five Inventory (BFI)	Because of advancing insights regarding personality measurement, in our study we opted to use the meta traits 'Stability' and 'Plasticity' as established by Van der Linden and colleagues (Van der Linden et al. 2010). To obtain the personality traits for construing both meta-traits we administered the Big Five Inventory (BFI) which assess the following personality traits: a) extraversion; b) agreeableness; c) conscientiousness; d) neuroticism; and e) openness (John et al. 1991). The BFI is a 44-item questionnaire containing short phrases. All 44 items are related to the central statement: "I am someone who…." Examples of questions tapping the five personality traits are as follows: "Is talkative" (Extraversion), "Has a forgiving nature" (Agreeableness), "Is a reliable worker" (Conscientiousness), "Can be tense" (Neuroticism), and "Likes to reflect, play with ideas" (Openness). All items could be answered from 1 (totally disagree) to 5 (totally agree). The original BFI in English was translated into Dutch and showed good psychometric properties. The five scales of the BFI showed adequate internal consistency, with a mean Cronbach's alpha of 0.83 (Denissen et al. 2008). In the current study, the alphas ranged between .69 and .87, with a mean of .77. Before constructing and using the meta-traits in our study we reproduced the factor analytical approach of Van der Linden, te Nijenhuis and Bakker (2010). To test whether the personality meta-traits 'Stability' and 'Plasticity' were present in our data, we employed the factor analytical approach as reported by van der Linden et al. (2010) and used similar criteria for testing for a higher-order factor solution. First, the Eigenvalue was only just 1 (specifically, 1.003) for the second factor, whereas it was more than twice as large for the first factor 2.0. Moreover, van der Linden et al. found Eigenvalues 1.007 and 2.3, for the first and second factor, respectively. Second, inspection of the scree plot showed that the only clear drop occurred after the first factor. Third, in the current study, the two components correlated moderately (r=.33) (Cohen 1988) explaining 11% of the variance. Based on these findings a CFA was allowed to

Instrument	Detailed description
	confirm the higher-order factor solution of both personality meta-traits. After testing the factor analytical model against our data by confirmative factor analysis (see results), we employed for both meta traits scales an algorithm to calculate an overall scale score by subtracting the minimum scale score from the raw scale score, dividing this by the scale score's range, multiplied by 100, resulting in scores ranging from 0 to 100% with a higher score reflecting a higher degree of stability or plasticity, respectively.
Moral Disengagement Scale	Within the framework of moral agency, Bandura (1999) introduced the mechanisms of moral disengagement to assess individuals' behavior which is in contradiction with their ethical principles without experiencing any form of guilt or shame. The Moral Disengagement Scale (MDS) measures the degree of disengagement of moral self-sanctions from inhumane conduct. Bandura et al. developed the 32-item Moral Disengagement Scale (MDS). Psychometric testing by Bandura et al. demonstrated a unidimensional scale with a Cronbach's alpha of 0.83 (Bandura et al. 1996). For our study, we modified items in the perspective of general healthcare. The scale's Cronbach's alpha of 0.85 in our study was consistent with the findings by Bandura et al. and indicated that translation and adaptation did not affect the internal consistency of the scale. An index score was calculated using the algorithm as employed for the personality meta-traits. The MDS is an indicator with a continuum ranging from 0 to 100. The lower-end scores reflect the degree of respondents' self-censure, i.e. moral self-control, meaning one refrain from behavior that violates the own moral standard, and the high-end scores indicate a high propensity to morally disengage.

CHAPTER 4

Facilitating and motivating factors for reporting reprehensible conduct in care: *A study among nurse practitioners and physician assistants in the Netherlands.*

Kuilman, L., Jansen, G., Mulder, L. B., & Roodbol, P. (2020).
Journal of Evaluation in Clinical Practice. doi: 10.1111/jep.13462.

ABSTRACT

Rationale, aims and objectives: The aims of this study are as follows: 1) to establish whether a relationship exists between the importance that healthcare professionals attach to ethics in care and their likelihood to report reprehensible conduct committed by colleagues, and 2) to assess whether this relationship is moderated by behavioral control targeted at preventing harm.

Method: In this cross-sectional study, which was based on a convenience sample (n=155) of nurse practitioners (NPs) and physician assistants (PAs) in the Netherlands, we measured ethics advocacy (EA) as a motivating factor (reflecting the importance that healthcare professionals attach to ethics and care) and "behavioral control targeted at preventing harm" (BCPH) as a facilitating factor. "Reporting reprehensible conduct" (RRC) was measured as a context-specific indicator of whistleblowing intentions, consisting of two vignettes describing morally questionable behavior committed by colleagues.

Results: The propensity to report reprehensible conduct was a function of the interaction between EA and BCPH. The only group for which EA predicted RRC consisted of individuals with above-average levels of perceived BCPH.

Conclusion: The results suggest that the importance that healthcare professionals attach to ethical aspects in care is not sufficient to ensure that they will report reprehensible conduct. Such importance does not induce reporting behavior unless the professionals also perceive themselves as having a high level of BCPH. We suggest that these insights could be helpful in training healthcare providers to cope with ethical dilemmas that they are likely to encounter in their work.

INTRODUCTION

In recent decades, healthcare professionals have increasingly been encountering moral dilemmas in their daily work. This development seems to be associated with changes in patient behavior, as well as with factors related to stress. The role of the patient has transformed into that of a partner within the framework of shared decision-making (Stiggelbout et al., 2012). As patients become more involved in the decision-making process, conflicts are more likely to arise between their ideas and the professional opinions, norms, or values of healthcare providers. Moreover, continuous changes in the healthcare environment have generated stress factors that are more commonly experienced by all healthcare professionals, regardless of their specialization (Pauly, Varcoe, & Storch, 2012). These stress factors include: (a) staffing problems; (b) the effects of increasing efficiency demands; (c) disturbances due to increasing hierarchical power; and (d) decreased control over one's own professional conduct (Burston & Tuckett, 2013a; Sporrong, Höglund, & Arnetz, 2006).

In a moral dilemma, the aforementioned factors can make it difficult to choose the right course of ethical conduct. For example, upon witnessing a moral offense, "the right thing" is to report it. In addition to a high capacity for moral reasoning (Liyanarachchi & Newdick, 2009), individuals need resources in order to utilize this capacity. The availability of such resources can be problematic under conditions of high work stress. In addition, it is more difficult to reach substantiated moral judgments in contexts involving conflicting interests between professionals and patients (Campbell, Ulrich, & Grady, 2016). The influence of the aforementioned stressors on the ethical decision-making process is known to cause "moral distress": a psychological disequilibrium occurring when the proper course of action is known, but circumstances prevent taking such action (Elpern, Covert, & Kleinpell, 2005). The increasing transformation of healthcare delivery into a moral enterprise is making it more likely that the numerous dilemmas arising in the daily work of healthcare providers will complicate the process of making ethical decisions, ultimately evoking a succession of moments of moral distress. It has been described that moral distress can have deleterious outcomes, with both intrapersonal and interpersonal consequences, while also affecting the working environment. Moral distress can inflict feelings of powerlessness regarding decision-making processes concerning treatment, thereby leading to "indecisive behavior" (Burston & Tuckett, 2013b). Such indecision could also occur with regard to reporting reprehensible conduct of others.

In this study, we focus on "reporting reprehensible conduct in care" as an outcome variable, exploring factors that might determine whether contemporary healthcare professionals will or will not report instances of reprehensible conduct that they might witness. We predict that the likelihood of healthcare professionals to report reprehensible conduct is determined by a combination of the extent to which they attach importance to ethics in care and their level of perceived behavioral control. We elaborate on this in the following sections.

BACKGROUND

Reporting Reprehensible Conduct in Care

From the perspective of compliance with the principles of ethical care, it is essential for all healthcare providers to adhere to the professional responsibility of identifying and reporting reprehensible conduct, as derived from the ethical imperative of refraining from maleficent conduct. In this study, therefore, we regard "reporting reprehensible conduct in care" (RRC) as a type of whistleblowing that is specific to the healthcare context and that involves reporting the behavior of colleagues who violate the rules or exhibit morally questionable conduct. We define RRC as a concept that is reserved exclusively to the healthcare domain and as a planned behavior that is specifically applicable to the individual, autonomous healthcare provider. In our definition, RRC can include either internal or external reporting. Internal reporting focuses largely on disclosing the misconduct of colleagues or superiors to the managerial layers holding ultimate responsibility within the organization. In contrast, external reporting is aimed at disclosing such misconduct to authorities outside the organization (e.g., the health inspectorate or even the press) (Gagnon & Perron, 2019). Given our view of RRC as a healthcare-specific concept that is strongly related to the concept of whistleblowing, we also suppose that RRC may be associated with comparable consequences for healthcare professionals. More specifically, reporting reprehensible conduct can pose a serious ethical dilemma for a healthcare professional, given that such reporting is known to have consequences at both the personal level (e.g., emotional, physical health, character assassination) and the professional level (e.g., occupational, financial, legal) (Hussain & Ho, 2017).

Factors enhancing the likelihood of reporting reprehensible conduct

Our primary hypothesis is that two antecedent factors are particularly likely to enhance the propensity to report reprehensible conduct of colleagues. The first factor is largely motivational: the importance that healthcare professionals attach to ethicality. We refer to it as "ethics advocacy (EA)." The second factor is largely related to ability: "behavioral control targeted at preventing harm (BCPH)." We predict that BCPH functions as a condition that must be fulfilled in order for the EA to have any effect. The two factors are clarified below.

Ethics advocacy (EA)

Ethics advocacy (EA) refers to the importance that individuals attach to ethicality within the specific context of healthcare delivery. More specifically, EA entails the extent to which healthcare professionals consider it important for attention to be paid to the ethical aspects of care within their organization and during patient contact. In our operationalization, EA appears to be closely congruent to the concept of "moral identity," which has been defined as the degree to which being a moral individual is central to one's own self-concept. This can vary from person to person (Aquino & Reed II, 2002). Moral identity has been shown to predict moral cognitions, and moral action has been shown to be negatively related to the intention to engage in ethical wrongdoing (Shao, Aquino, & Freeman, 2008) and positively related to the intention to engage in whistleblowing (Proost, Pavlinská, Baillien, Brebels, & Van den Broeck, 2013; Watts & Buckley, 2017).

Like moral identity, EA might have a positive influence on moral behavior. More specifically, individuals with a high level of EA attach importance to the ethical aspects of care and are likely to be more motivated to devote attention to ethical aspects themselves. They are more likely to recognize situations as moral dilemmas, and they are more inclined to make morally appropriate choices. We therefore expect individuals with a strong orientation to ethics advocacy to be more targeted at preventing harm and to be more driven by the intrinsic motivation of their own moral standard of applying ethics, thus making them more likely to report reprehensible conduct. In other words, people with high EA will be more bothered by observing immoral practices and more likely to feel an urge to denounce reprehensible conduct.

It is important to note that the motivation to act morally does not necessarily lead to morally justifiable decisions. Although an individual may have a high propensity for ethics advocacy and, consequently, a strong desire to report reprehensible conduct, a certain degree of *behavioral control* is needed.

Perceived behavioral control targeted at preventing harm

An individual who is motivated to report reprehensible conduct cannot convert this motivation into action without feeling able to do so. Individuals thus need to perceive that they have behavioral control. According to Bandura, the ways in which people behave are generally better predicted by their perceived behavioral control (or "self-efficacy") than by their factual skills. This is because perceived behavioral control helps individuals to determine what to do with the knowledge and skills that they have (Bandura, 1997). With regard to reporting behavior, it has been shown that self-efficacy is positively related to the intention to report fraud that has been detected (Purnamawati, 2018), and that perceived behavioral control is a positive predictor of whistleblowing intentions (Park & Blenkinsopp, 2009). In the current paper, we argue that perceived behavioral control has a direct effect on reporting behavior, in addition to moderating the relationship between EA and reporting behavior. More specifically, we reason that EA increases the likelihood of reporting reprehensible conduct, but only among people who sense that it would be easy to perform such behavior (Ajzen, 1991). We therefore hypothesize that EA will more strongly increase the likelihood of reporting reprehensible conduct when perceived behavioral control is high, rather than low.

To test this hypothesis, we operationalized a construct of perceived behavioral control that is specific to the context of healthcare and in line with the most fundamental precepts of the Hippocratic oath of "First, do no harm." As such, we introduce the measure "Behavioral control targeted at preventing harm" (BCPH).

In summary (see also Figure 1), our research has two aims: 1) to establish whether a relationship exists between attitudes toward ethics advocacy (EA, variable *X*) and the likelihood of reporting reprehensible conduct committed by colleagues (RRC, variable *Y*), and 2) to assess whether behavioral control targeted at preventing harm (BCPH, variable *M*) interacts with the relationship between *X* and *Y*.

METHOD

Study design, participants, and data collection

In this cross-sectional study, we selected five PA degree programs and one NP degree program as sources for approaching alumni. In accordance with the European General Data Protection Regulation, the researchers were not granted permission to use the databases of the programs in order to retrieve the email addresses of alumni. For this reason, administrators of the programs sent the information letter concerning the study to 470 NP alumni and 426 PA alumni. By activating a hyperlink to a private web-based system included in this letter, individual alumni were free to reveal their contact details to the researchers. When respondents granted permission to use their email addresses, this was regarded as informed consent. In all, 294 subjects (176 PAs and 118 NPs) expressed willingness to participate. Each of these subjects was sent the access key to the web-based set of questionnaires. At the end of the online survey period (January–March 2015), 155 respondents had completed all of the questionnaires, indicating a response rate of 52.7% (i.e., 155/294). We were unable to test for selection bias, as no information was available about the alumni who did not participate. Because all of the questions in the Qualtrics online survey environment were forced choice, there were no missing data.

The dataset used in the current study was the same as the one in previous studies by Kuilman and colleagues (2019 and 2020) (Kuilman, Jansen, Middel, Mulder, & Roodbol, 2019; Kuilman, Jansen, Mulder, Middel, & Roodbol, 2020). Different variables were used from that pool, however, the current study focused on different research questions. In one previous study (Kuilman et al. 2020), the "Ethics Advocacy Scale" (EAS) and the scale for "Behavioral Control targeted at Preventing Harm" (BCPH) were used for the purpose of convergent and discriminant validation.

Measurements

Sociodemographic characteristics

The following background characteristics were collected for purposes of conducting tests for the comparability of the NP and PA samples: gender, age, religious beliefs, and political affiliation. Respondents were also asked to characterize their working environments as (a) "hospital;" (b) "general practice;" (c) "mental healthcare;" (d) "care for people with mental disabilities;" or (e) "other."

Reporting reprehensible conduct in care (RRC)

Reporting behavior was measured by presenting respondents with two vignettes (See Appendix 1). In each of the described situations, a colleague exhibited morally questionable behavior. After reading the vignettes, the respondents were asked to indicate the probability that they would report this behavior, based on a 10-centimeter visual analogue scale (VAS) with a minimum value of 0 and maximum of 100 at interval level.

Higher scores on the visual analogue scale indicated greater likelihood of reporting reprehensible conduct. Factor analysis revealed that the two scales were highly correlated with the underlying construct, with factor loadings of 0.80 and 0.81, respectively, explaining 69.4% of the variance. Communalities were >.6, thus suggesting that the sample size (N=155) was good. This was corroborated by the Kaiser-Meyer-Olkin measure of sample adequacy (.70), which was also in the range of "good" (MacCallum, Widaman, Zhang, & Hong, 1999). In the current study, the scale items were operationalized for unidimensionality rather than for internal consistency. For this reason, the degree of intercorrelation between items was used as a straightforward indicator of reliability. Unlike Cronbach's alpha, the mean inter-item correlation (MIIC) is not dependent on the number of items in the scale. According to the guidelines of Briggs and Cheek, the optimal range for the MIIC is between 0.20 and 0.50, but it should not be less than 0.15 (Briggs & Cheek, 1986). It therefore seems reasonable to take the upper value of the range (i.e., MIIC≥.25 to ≤.55). The MIIC value of 0.34 confirmed the homogeneity of the RRC scale.

Within the regression-based moderation model, "reporting reprehensible conduct" was estimated according to two indicators—a) changing the waiting list for heart transplantation (Vignette 1), and b) suspected administration of morphine (Vignette 2)—as a linear combination of the subjects' scores on both subscales (Belk, ; Korch, 2015). Residual correlations between the two indicators of planned behavior and the likelihood of reporting reprehensible conduct were allowed, as they belonged to the same measure and were assessed simultaneously.

Ethics Advocacy Scale (EAS)

The propensity to advocate the importance of ethics in care was measured according to three Likert-type items ranging from 1 (not applicable) to 5 (completely applicable) with the following response options: 1) "I think it's important—when there is a good reason to do so—to raise ethical aspects of care during patient care discussions;" 2)

"I think it's important to be alert to the ethical implications of the medical treatment I provide;" and 3) "I think it's important for the organization where I work to focus explicit attention on the medical and ethical aspects of care." A fourth question was added as well: "What is your opinion about applying ethical principles to medical care?" This question was measured with a semantic differential scale ranging from 0 ("completely useless") to 100 ("very meaningful"). In order to combine the Likert-type items with the semantic differential scale questions, the first three items were also converted along a continuum ranging from 0 to 100. Results of Principal Component Analysis with Varimax rotation demonstrated that the EAS construct was unidimensional, with factor loadings of 0.74, 0.79, 0.70, and 0.75, respectively. Results of reliability analysis indicated an acceptable level of internal consistency, as reflected by a Cronbach's alpha score of 0.72, with a mean inter-item correlation coefficient (MIIC) of 0.40. Higher scores on the EAS reflect a higher propensity to advocate the importance of ethics in care.

Behavioral control targeted at preventing harm (BCPH)

We measured behavioral control according to the following five items, which tapped the extent to which health practitioners were confident in their skills and alertness to prevent harm to the patient: 1) "I always feel responsible for proper patient care, even if the resources are insufficient;" 2) "My skill in assessing the needs of the patient always helps me in my work;" 3) "I can always properly assess whether and when a patient should be told the truth;" 4) "I can easily sense when a patient is not receiving proper care;" and 5) "In patient care, I am always aware of the balance between performing the task well and the risk of harm to the patient." These items were answered along a 7-point Likert scale ranging from 1 (completely disagree) to 7 (completely agree). Principal Component Analysis with Varimax rotation demonstrated that the BCPH scale was unidimensional, with factor loadings ranging from 0.54 to 0.83. The Cronbach's alpha score for the scale was 0.72, with a MIIC value of 0.37. Higher scores reflected greater perceived behavioral control targeted at preventing harm.

Statistical analysis

Bivariate analysis

For categorical variables, we used the chi-squared test (Fisher's exact tests for 2 × 2 contingency tables) and the difference between proportions test (Newcombe & Altman, 2000). For continuous variables, we used the Student's t test for independent

samples. For correlation analysis, we used the parametric version of Pearson's r, as all of the continuous variables had been transformed towards normality (Templeton & Burney, 2016).

Multivariate analysis

A regression-based moderation analysis was applied. We computed the *a priori* minimum sample size (given an alpha value of 0.05, a power of 0.80, and an effect size of f2=0.15) to determine the appropriateness of conducting a moderation analysis. Based on the outcome (minimum=68) and the sample size of the current study (n=155), moderation analysis was deemed permissible. The moderation analysis was performed based on a built-in bootstrap procedure of 5000 replications. All analyses, both bivariate and multivariate, were performed using IBM SPSS v. 25, and the regression-based moderation analysis was conducted by using the PROCESS SPSS macro, version 3.4. The computation of the minimum required sample-size for moderation analysis was performed using G*Power (Faul, Erdfelder, Buchner, & Lang, 2009). To plot the cross-over interaction effects of the unstandardized variables, we used an Excel spreadsheet made available by Professor James Gaskin (Gaskin, 2016).

Ethical considerations

According to the statement by the Dutch Central Committee on Research Involving Human Subjects (www.ccmo.nl), no institutional review board approval was warranted for this type of survey with voluntary participation of professionals. An information letter sent to all respondents notified them of a) the purpose of the study, b) the voluntary nature of participation, and their right to stop participating in the study at any time. The respondents were also informed that their answers would be completely anonymous and that they would not be used for any purpose other than the study. Furthermore, the letter clearly addressed the expected average time needed to complete the questionnaires (45 minutes). This study was performed in accordance with the tenets of the Declaration of Helsinki (General Assembly of the World Medical Association, 2014). Only the first author (LK) had access to the encrypted data. The "Strengthening the Reporting of Observational Studies in Epidemiology" (STROBE) checklist was followed as a guideline for reporting on observational research.

RESULTS

Sociodemographic characteristics

An overview of the sociodemographic characteristics of the respondents is presented in Table 1. The average age of the respondents was 45.2 (± 9.1). The majority (70.3%) of the recruited sample were women. Less than half (46.5%) of the 155 respondents reported being religious, and 13.5% indicated a tendency to vote for a conservative political party. The results nevertheless did not reveal any statistically significant association (χ^2=3,991, *df*=1, *p*=0.06) between religiosity and political preference. With respect to working environment, most (72.9%) of the respondents were employed in hospitals, with a smaller share (14%) working in family medicine (general practice) and the rest working either in mental healthcare (5.8%), care for people with mental disabilities (1.3%), or elsewhere (12.9%).

Table 1: Socio-demographic characteristics of participants stratified to PAs and NPs

Sociodemographic characteristics		Physician Assistant *N=88*	Nurse Practitioner *N=67*	Total *N= 155*	(p-value)
Age mean (SD)		42.5 (8.4)	48,8 (8.7)	45.2 (9.1)	< .001[#]
Gender	Female N (%)	56 (63.6)	53 (79.1)	109 (70.3 %)	.05[&]
	Male N (%)	32 (36.4)	14 (20.9)	46 (29.7 %)	
Religion	Not religious	48 (54.5)	35 (52.3)	83 (53.5 %)	
	No denomination but spiritual	3 (3.4)	4 (4.5)	7 (4.5 %)	.54[$]
	Christian	35 (39.8)	25 (37.3)	60 (38.7 %)	
	Muslim	1 (1.1)	0	1 (0.7 %)	
	Other religions	1	3 (4.5)	4 (2.6 %)	
Working environment	Hospital N (%)	64 (72.7 %)	49 (73.1%)	113 (72.9 %)	.58[$]
	General practice N (%)	13 (14.8 %)	7 (10.5 %)	20 (12.9 %)	
	Mental health care N (%)	3 (3.4 %)	6 (9 %)	9 (5.8 %)	
	Disability care N (%)	1 (1.1 %)	1 (1.5 %)	2 (1.3 %)	
	Other N (%)*)*	7 (8 %)	4 (5.9 %)	11 (7.1 %)	
Political orientation	Conservative N (%)	15 (17 %)	6 (9 %)	21 (13.5 %)	.14[&]
	Liberal N (%)	73 (83 %)	61 (91 %)	134 (86.5 %)	

= Independent Sample's T-test; $ =difference between proportions test; & = Chi square test

An overview of our main and sociodemographic variables is presented in Table 2, along with the correlations between them.

Table 2: Average scores and correlations across the scales themselves and with sociodemographic parameters

Sociodemographic parameters			**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	
Age	**(1)**									
Gender	**(2)**		.041							
Working Environment	**(3)**		.023	-.012						
Religion	**(4)**		.003	-.039	-.014					
Political orientation	**(5)**		.167*	-.032	.151	-.160*				
Instruments		**M (SD)**								**MIIC**
Ethics Advocacy Scale (EAS)	**(6)**	81.63 (12.1)	**.196***	-.071	.086	-.045	.081			.37
Behavioral Control targeted at Preventing Harm (BCPH)	**(7)**	77.40 (10.15)	.039	.125	-.143	-.006	-.044	**.388****		.40
Reporting Reprehensible Conduct (RRC)	**(8)**									
Vignette 1		62.3 (33.5)								
Vignette 2		51.6 (24.8)	.012	.087	.013	-.007	.024	**.174***	**.190***	.34

*=Correlation is significant at the 0.05 level (2-tailed); ** = Correlation is significant at the 0.01 level (2-tailed). MIIC = mean inter-item correlation coefficient.

Moderation analysis

To assess whether behavioral control targeted at preventing harm (BCPH, variable *M*) interacts with the relationship between *X* and *Y*, a regression-based moderation analysis was performed. The overall model (see Figure 1) was significant: R^2=.081, F(3, 151)=4.49, p=.0047.

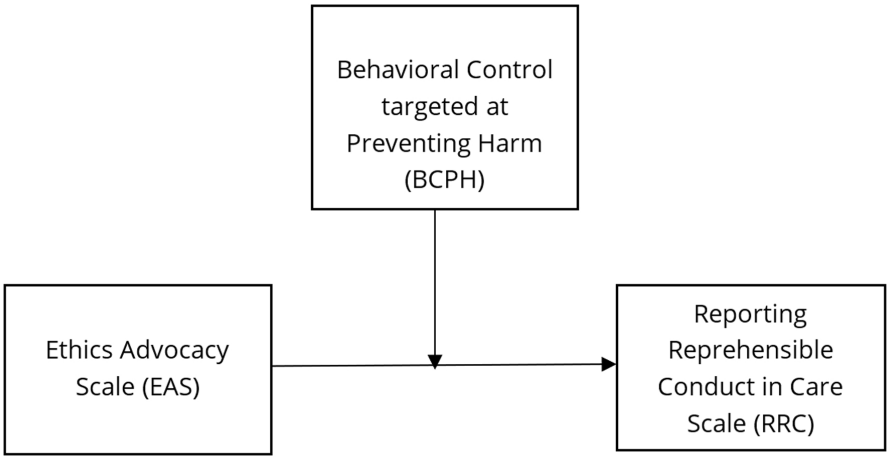


Figure 1: Conceptual model for simple moderation analysis. X = EAS; Y= RRC; M= BCPH. *R2 = .081, F*(3, 151) = 4,49, *p* = .0047.

The model that was tested did not reveal any main effects, either for EA (*B*=481.6, *p*=.1586) or for BCPH (*B*=309.7, *p*=.3886). It did reveal a significant interaction between EA and BCPH (*B*=762.00, *t* (151)= 2.37, *p*=.012). As hypothesized, this interaction indicates that EA has a stronger positive effect on the likelihood of RRC when BCPH is high rather than low (See Figure 2).

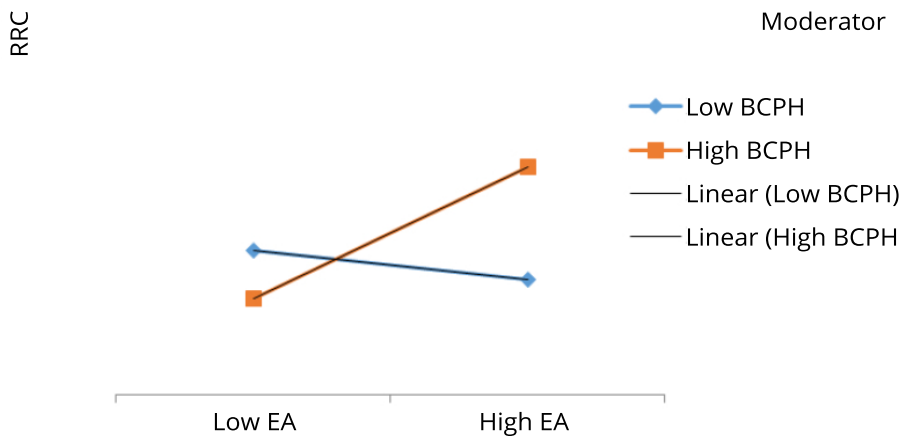


Figure 2: Plotting of the interaction effects (unstandardized) of BCPH on EA > RRC.

More precisely, EA has a statistically significant effect on reporting (Effect=.9892, *p*=.0091) only at the higher end of the scale (see Table 3, which displays the Johnson-Neyman significance regions). These results suggest that EA does not increase the likelihood of RRC except when behavioral control is high, and that it has no effect at average or low levels. Given the significant correlation between "Age" and EA (see Table 2), we also tested the overall model by including age as a covariate. This had no impact on the effects.

Table 3: Conditional effect of EAS on BP-RRC at values of the moderator BCPH (defined by Johnson-Neyman significance region(s)

BCPH (raw scale scores)	BCPH (two-step transformation scores)	Effect	se	t	p	LLCI	ULCI
	-2.4864	-1413.9	866.5	-1.63	.10	-3125.9	298
	-2.2378	-1224,4	793.5	-1.54	.12	-2792.2	343.4
	-1.9891	-1034.8	722	-1.43	.15	-2461.4	391.7
	-1.7405	-845.3	652.5	-1.29	.19	-2134.5	443.9
	-1.4919	-655.7	585.7	-1.12	.26	-1812.9	501.5
	-1.2432	-466.2	522.6	-.89	.37	-1498.7	566.4
	-.9946	-276.6	464.7	-.59	.55	-1194.8	641.6
	-.7459	-87.1	414.3	-.21	.83	-905.7	731.6
	-.4973	102.5	374.4	.27	.78	-637.2	842.2
	-.2486	292	348.5	.83	.40	-396.6	980.6
	.0000	481.6	339.9	1.41	.16	-190.1	1153.2
	.2486	671.1	349.9	1.91	.06	-20.3	1362.5
≥ .80	**.2824**	**696.8**	**352.7**	**1.97**	**.05**	**.0**	**1393.7**
	.4973	**860.7**	**377.1**	**2.28**	**.02**	**115.7**	**1605.7**
≥ .83.3	**.7459**	**1050.2**	**417.9**	**2.51**	**.01**	**224.4**	**1876**
≥ 86.67	**.9946**	**1239.8**	**469**	**2.64**	**<.01**	**313**	**2166.5**
	1.232	**1429.3**	**527.4**	**2.71**	**<.01**	**387.2**	**2471.3**
	1.4919	**1618.8**	**590.8**	**2.74**	**<.01**	**451.5**	**2786.2**
≥ 93.33	**1.7405**	**1808.4**	**657.9**	**2.75**	**<.01**	**508.6**	**3108.3**
≥ 96.67	**1.9891**	**1997.9**	**727.5**	**2.74**	**<.01**	**560.5**	**3435.5**
	2.2378	**2187.5**	**799.2**	**2.73**	**<.01**	**608.5**	**3766.6**
100	**2.4864**	**2377.1**	**872.3**	**2.72**	**<.01**	**653.7**	**4100.5**

Bold are statistically significant regions at P < 0.05

DISCUSSION

The objective of our study was to assess whether the reporting of ethical mistakes committed by colleagues could be predicted by the extent to which healthcare professionals regard ethical care as important and the extent to which they perceive to have behavioral control. More precisely, we hypothesized that converting motivation to report reprehensible conduct requires that the individual must feel capable of doing so. We therefore expected behavioral control targeted at preventing harm (BCPH) to moderate the effect of ethics advocacy (EA) on reporting behavior. The results of our study provide evidence to confirm this hypothesis.

According to our results, although EA was correlated with "reporting reprehensible conduct in care" (RRC), it had no statistically significant main effect on RRC in the overall regression-based moderation model. The hypothesis that BCPH acts as a "facilitator" to strengthen the relationship between EA and RRC was confirmed. The interaction between EA and BCPH showed that the positive effect of EA on RRC was only present for people with an above-average perception of control (BCPH score ≥ 80, representing the 33.6% highest BCPH scorers). For people with an average or below average perception of control, EA did not increase the intention to report. These results suggest that the motivation to act morally based on EA is not sufficient to ensure actual reporting behavior. The professional must also be convinced that reporting reprehensible conduct will be of benefit to those who have been negatively affected. In other words, a sufficient level of behavioral control is needed in order to ensure that a professional will feel able to convert the motivation to report into the actual reporting behavior. These results are in line with Bandura's claim that perceived behavioral control helps individuals to determine what to do with the knowledge and skills they possess (Bandura, 1997). Our data suggest that, within the context of healthcare, the perception of having control over doing no harm to the patient can help health professionals to act upon the importance that they attach to moral values in care by reporting any reprehensible conduct of colleagues that they might observe. In this regard, BCPH facilitates the translation of the motivation to report morally questionable behavior of colleagues into action.

Our findings that both ethics advocacy and behavioral control play an important role in the likelihood of reporting reprehensible conduct can also be understood within the context of the Theory of Planned Behavior (Ajzen, 1991). In their systematic

review, Godin and Kok (1996) describe 56 studies reporting that "planned behavior" has a statistically significant correlation with both "attitude" (r = .22 to .77) and "perceived behavioral control" (r = .14 to .85). These correlations were found among a wide variety of study subjects and domains, including a) addiction (e.g., quitting smoking); b) exercising behavior (e.g., initiating sport activities for health benefits); c) oral hygiene behavior (e.g., preventing dental decay by brushing frequently); and d) health-risk prevention behavior (e.g., condom use to prevent HIV) (Godin & Kok, 1996).

The outcomes of the present study contribute to the literature on whistleblowing. We developed and tested a context-specific measure of whistleblowing explicitly for individual healthcare providers (e.g., PAs and NPs). These efforts were prompted largely by a recently published narrative review by Blenkinsopp and colleagues (2019), which identifies 58 studies addressing the phenomenon of whistleblowing in healthcare at least to some extent (Blenkinsopp et al., 2019), with the greatest share of these studies focusing exclusively on nursing populations. This is problematic, as the findings for nurses may not generalize to other health professions, given that nurses usually work in teams, in addition to having their own professional culture, interactions, norms, and values. Moreover, their relatively small range of decision authority may hamper whistleblowing behavior. The current study investigates whistleblowing behavior among PAs and NPs, whose autonomous, full-practice authority should logically make them more likely to engage in whistleblowing (De Bruijn-Geraets et al., 2018). Our findings show that, even in light of such professional authority, these practitioners still require a higher-than-average level of perceived behavioral control in order to translate their motivation to act morally into actual behavior.

Strengths and limitations

One strength of this study is that it is based on a representative sample in terms of gender and age that reflects the demographics of both the NP and PA workforces in the Netherlands (Laurant, van de Camp, Boerboom, & Wijers, 2014). For this reason, the results can be generalized to a certain degree. The findings obtained among these autonomous PAs and NPs could conceivably also be applied to professionals with comparable independent treatment relationships (e.g., medical doctors, physical therapists, speech therapists, or dental hygienists).

In methodological terms, another strength of our study is the sample size—155 respondents—which is well above the minimum required for moderation analysis (*n*=68) (Faul et al., 2009). In addition, despite the cross-sectional nature of the data, the Harman's single-factor analysis indicated that a single factor accounted for only 28.7% of the total variance. Given the maximum threshold of 50%, common-method variance thus had little or no effect on the conclusions (Podsakoff & Organ, 1986).

Our study is also subject to several limitations. First, the cross-sectional nature of the data did not allow us to assess the stability (i.e., test-retest) of the instruments. Second, even though the correlations between RRC, EA, and BCPH were statistically significant, their explained variances were relatively low. It should therefore be clear that many other factors—*which were not included in this study*—could explain or influence whistleblowing behavior. Further exploration is therefore needed. Another possible limitation has to do with the low reliability of the two vignettes in the RCC measure (Cronbach's alpha value of 0.51). As previously described, however, the mean inter-item correlation (MIIC) of 0.34 fell well within the specified range (≥.25 to ≤.55), thereby indicating an acceptable level of homogeneity for the two vignettes. (Boyle, 1991) Nevertheless, the inclusion of more vignettes could offer a solution for achieving a high Cronbach's alpha value (Clark & Watson, 1995; Cortina, 1993). According to the formula proposed by Nunally (page 225) for estimating the number of items (*k*) necessary to obtain the required alpha value of 0.80, the current RRC scale should be extended with six vignettes that tap particular aspects of the underlying construct (Nunnally, 1967). This provides an avenue for continuing research on this specific indicator of whistleblowing within the context of healthcare.

IMPLICATIONS

The healthcare landscape is changing rapidly. More specifically, patients are becoming more vocal, measures are being taken to keep care affordable, and sociodemographic processes (including population aging) are exerting pressure on the balance between the demand for and supply of care. All of these factors are combining to increase the prevalence of situations in which moral considerations come into play. According to our results, behavioral control targeted at preventing harm (BCPH) plays a pivotal role in the ethical decision-making process. More specifically, BCPH acts as a facilitator, strengthening the relationship between ethics advocacy and the likelihood of reporting

reprehensible conduct in care. In other words, a high level of perceived behavioral control is needed in order to ensure that people will act according to their values. It is therefore essential to foster the sense of behavioral control among healthcare professionals. One way could be to increase their knowledge of or experience with morally delicate circumstances. Exposing students to ethical dilemmas from the early phases of their training (e.g., through frequent fictitious patient encounters) could help their behavioral control to mature as their training progresses. The complexity of the ethical situations addressed during such educational sessions could conceivably be coordinated to correspond to where the students are in their training programs at that moment. As students become more comfortable in coping with ethical dilemmas, they are likely to grow more confident in their ability to prevent harm in care. This could help them to act on their moral values upon encountering reprehensible conduct in their future professional lives.

REFERENCES

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179-211.

Aquino, K., & Reed II, A. (2002). The self-importance of moral identity. Journal of Personality and Social Psychology, 83(6), 1423.

Bandura, A. (1997). Self-efficacy: The Exercise of Control. New York: W. H. Freeman.

Belk, J.Linear Combinations and Span. Retrieved from http://faculty.bard.edu/belk/math213s14/LinearCombinationsAndSpanRevised.pdf

Blenkinsopp, J., Snowden, N., Mannion, R., Powell, M., Davies, H., Millar, R., & McHale, J. (2019). Whistleblowing over patient safety and care quality: a review of the literature. Journal of Health Organization and Management,

Boyle, G. J. (1991). Does item homogeneity indicate internal consistency or item redundancy in psychometric scales? Personality and Individual Differences, 12(3), 291-294.

Briggs, S. R., & Cheek, J. M. (1986). The role of factor analysis in the development and evaluation of personality scales. Journal of Personality, 54(1), 106-148.

Burston, A. S., & Tuckett, A. G. (2013a). Moral distress in nursing: contributing factors, outcomes and interventions. Nursing Ethics, 20(3), 312-324.

Burston, A. S., & Tuckett, A. G. (2013b). Moral distress in nursing: contributing factors, outcomes and interventions. Nursing Ethics, 20(3), 312-324.

Campbell, S. M., Ulrich, C. M., & Grady, C. (2016). A broader understanding of moral distress. The American Journal of Bioethics, 16(12), 2-9.

Clark, L. A., & Watson, D. (1995). Constructing validity: Basic issues in objective scale development. Psychological Assessment, 7(3), 309.

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. Journal of Applied Psychology, 78(1), 98.

De Bruijn-Geraets, D. P., van Eijk-Hustings, Y. J. L., Bessems-Beks, M. C. M., Essers, B. A. B., Dirksen, C. D., & Vrijhoef, H. J. M. (2018). National mixed methods evaluation of the effects of removing legal barriers to full practice authority of Dutch nurse practitioners and physician assistants. BMJ Open, 8(6), e019962-2017-019962. doi:10.1136/bmjopen-2017-019962 [doi]

Elpern, E. H., Covert, B., & Kleinpell, R. (2005). Moral distress of staff nurses in a medical intensive care unit. American Journal of Critical Care, 14(6), 523-530.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. Behavior Research Methods, 41(4), 1149-1160.

Gagnon, M., & Perron, A. (2019). Whistleblowing: A concept analysis. Nursing & Health Sciences,

Gaskin, J. (2016). "2 way interactions", Stats Tools Package [computer software]

General Assembly of the World Medical Association. (2014). World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects. The Journal of the American College of Dentists, 81(3), 14-18.

Godin, G., & Kok, G. (1996). The theory of planned behavior: a review of its applications to health-related behaviors. American Journal of Health Promotion, 11(2), 87-98.

Hussain, S. F., & Ho, R. C. (2017). The Consequences of Whistle-blowing: An Integrative Review.

Korch, M. (2015). Teaching, Linear Algebra WNE UW 3: Vector Spaces and Linear Combinations. Retrieved from https://www.mimuw.edu.pl/~m_korch/3-vector-spaces-linear-combinations/

Kuilman, L., Jansen, G. J., Middel, B., Mulder, L. B., & Roodbol, P. F. (2019). Moral reasoning explained by personality traits and moral disengagement: a study among Dutch nurse practitioners and physician assistants. Journal of Advanced Nursing, 75(6), 1252-1262.

Kuilman, L., Jansen, G. J., Mulder, L. B., Middel, B., & Roodbol, P. F. (2020). Re□ assessing the validity of the Moral Sensitivity Questionnaire (MSQ): Two new scales for moral deliberation and paternalism. Journal of Evaluation in Clinical Practice,

Laurant, M., van de Camp, K., Boerboom, L., & Wijers, N. (2014). Een studie naar functieprofielen, taken en verantwoordelijkheden van Physician Assistants en Verpleegkundig Specialisten. Scientific Institute for Quality of Healthcare Radboudumc: BMJ Publishing Group,

Liyanarachchi, G., & Newdick, C. (2009). The impact of moral reasoning and retaliation on whistle-blowing: New Zealand evidence. Journal of Business Ethics, 89(1), 37-57.

MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. Psychological Methods, 4(1), 84.

Newcombe, R. G., & Altman, D. G. (2000). Proportions and their differences. Statistics with Confidence, 2, 45-56.

Nunnally, J. (1967). Psychometric theory. New York: McGraw-Hill Book Company.

Park, H., & Blenkinsopp, J. (2009). Whistleblowing as planned behavior–A survey of South Korean police officers. Journal of Business Ethics, 85(4), 545-556.

Pauly, B. M., Varcoe, C., & Storch, J. (2012). Framing the issues: moral distress in health care. Paper presented at the Hec Forum, , 24(1) 1-11.

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. Journal of Management, 12(4), 531-544.

Proost, K., Pavlinská, A., Baillien, E., Brebels, L., & Van den Broeck, A. (2013). Employees' intention to blow the whistle: The role of fairness and moral identity. Psihologia Resurselor Umane, 11(2), 15-27.

Purnamawati, I. G. A. (2018). Individual perception of ethical behavior and whistleblowing on fraud detection through self-efficacy. Jurnal Keuangan Dan Perbankan, 22(2)

Shao, R., Aquino, K., & Freeman, D. (2008). Beyond moral reasoning: A review of moral identity research and its implications for business ethics. Business Ethics Quarterly, 18(4), 513-540.

Sporrong, S. K., Höglund, A. T., & Arnetz, B. (2006). Measuring moral distress in pharmacy and clinical practice. Nursing Ethics, 13(4), 416-427.

Stiggelbout, A. M., Van der Weijden, T., De Wit, M. P., Frosch, D., Légaré, F., Montori, V. M., . . . Elwyn, G. (2012). Shared decision making: really putting patients at the centre of healthcare. BMJ: British Medical Journal (Online), 344

Templeton, G. F., & Burney, L. L. (2016). Using a Two-Step Transformation to Address Non-Normality from a Business Value of Information Technology Perspective. Journal of Information Systems,

Watts, L. L., & Buckley, M. R. (2017). A dual-processing model of moral whistleblowing in organizations. Journal of Business Ethics, 146(3), 669-683.

Appendix 1: Vignettes 1 and 2 on Reporting Reprehensible Conduct in Care

Vignette 1. Nobody needs to know … heart for a heart.

Suppose that you are working as a physician assistant at a thoracic surgery ward where heart transplants are performed. Willemijn, a young patient, is very ill. If she does not receive a donor heart soon, she will die. You are very concerned about her. She is so gentle and cheerful, despite her predicament. She is the darling of the entire ward. Eurotransplant notifies the ward that a donor heart is available. According to the waiting list, Mr. Van der Sluis is eligible for it. Both he and Willemijn are a match. Mr. Van der Sluis has been rude to almost everyone on the ward staff. Your colleague Hans, who – unlike you – has access to the data, tells you in confidence that he will use the computer to change the rank order in favor of Willemijn. He is certain that this will remain unnoticed and asks you not to tell anybody.

On the line below, please indicate to what degree you are inclined to discuss this switch with a third party.

Not at all **Certainly**

|_____|

Vignette 2. So much morphine, that isn't palliative sedation …

You are working as a physician assistant at the practice of a dispensing physician. One of the patients has metastasized lung cancer. You saw this patient recently because he complained of increasing pain in the right upper quadrant. You then also discussed the patient's views on euthanasia and palliative sedation. The patient said that he was opposed to euthanasia but did not want to die choking either. He will allow the GP to put him to sleep and then 'let go softly'. This morning, you receive word that the patient died overnight. When you look at his file, you notice the following entry: A96.01 'natural death'; in the pharmacy module, you read that three 1 mL (10 mg/mL) ampoules of morphine have been used. Digging further, you notice that eight 5 mL (20 mg/mL) ampoules – a total of 800 mg – of morphine were written off in the opiate ledger today because they 'fell on the floor and broke'. This is highly unusual. You strongly suspect that the GP has ignored the legislative obligations concerning euthanasia and palliative sedation. You confront the GP with your findings. The GP says that in this acute situation, there was no time to observe the palliative sedation protocol.

On the line below, please indicate to what extent you would be inclined to report this case to the Health Care Inspectorate.

Not at all **Certainly**

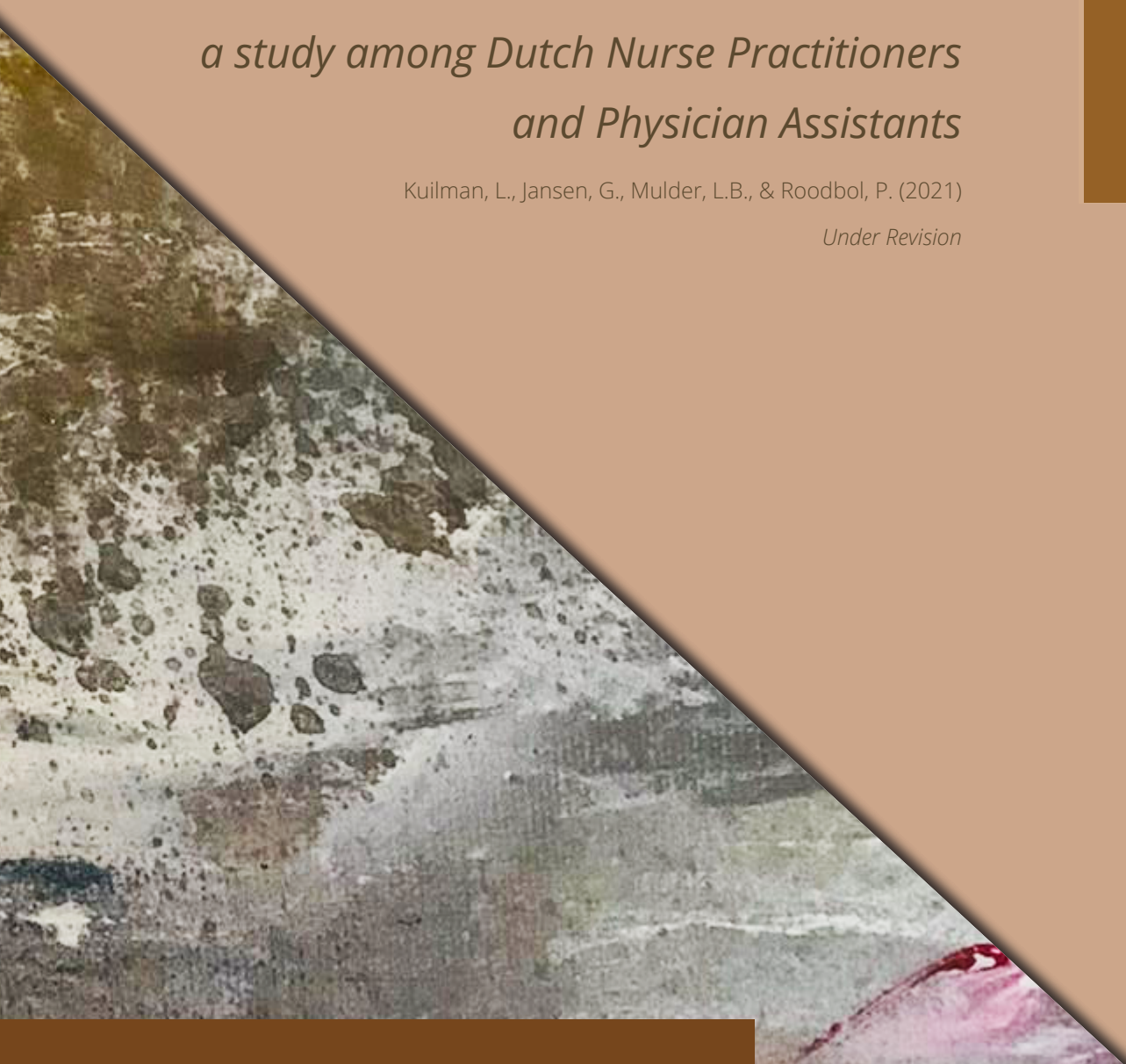
|_____|

CHAPTER 5

The predictive values of a Deliberative and a Paternalistic Attitude towards two situations of Moral Conflict: *a study among Dutch Nurse Practitioners and Physician Assistants*

Kuilman, L., Jansen, G., Mulder, L.B., & Roodbol, P. (2021)

Under Revision



ABSTRACT

Background: In this study, we examined the predictive values of a moral deliberate, and paternalistic attitude on health professionals' propensity of yielding to pressure. In these hypothesized positive and negative relationships, we further sought to ascertain whether moral disengagement plays a pivotal role when individuals deviate from moral standards, rules, and regulations when yielding to pressure.

Aim(s): This study's primary aim was to assess the predictive value of a moral deliberative and paternalistic attitude on yielding to pressure when health professionals are confronted with moral conflicts.

Method: This validation study was cross-sectional and was based on a convenience sample of Dutch nurse practitioners and physician assistants respectively. The MSQ-DELIB and MSQ-PATER scales indicate a moral deliberate or paternalistic attitude. These scales were assumed to have a predictive value towards the degree of yielding to pressure. Yielding to pressure was measured by two vignettes in which respondents were faced with a moral conflict (vignette 1: prescribing unindicated antibiotics, and vignette 2: discharging a difficult patient from the hospital).

Results: Only moral deliberation was a significant predictor of yielding to pressure. However, we found a positive effect for vignette 1 (in which the pressure came from the patient), while we found a negative relationship in vignette 2 (in which pressure came from the patient's environment). Paternalism did not affect yielding to pressure in either vignette.

Conclusion: This study suggests that moral deliberation makes healthcare professionals receptive to pressure exerted by patients to break moral standards but more resilient against doing so when this pressure comes from other sources than the patient. However, further research is needed to find more conclusive evidence for this differential effect.

INTRODUCTION

In the last decades, patient behavior has changed (Barlem & Ramos, 2015), most likely because of the obviousness of shared decision-making. Patients have increasingly become more articulate and have a strong voice in their treatment. This development has many positive aspects, as it gives space to the patient's preferences and ideas about treatment within the interplay of patient and healthcare provider besides offering freedom of choice. A downside of this change in patients' position is that they negotiate for what they think is a superior treatment option instead of a standard treatment that may be sufficient and cost-effective (Saarni, Halila, Palmu, & Vanska, 2008; Stiggelbout et al., 2012). This phenomenon seems to be triggered by the easily accessible medical information available on the internet (Ford, 2000; Jacobson, 2007). The danger in this is that the patient, as a layperson, may think that (s)he is being denied the most optimal care. In such a situation, healthcare professionals can be trapped by the emerging moral conflict. This conflict between options pushes health care providers into a position where they need to weigh interests, which results in decisions that at times are not in line with the (moral) guidelines.

Moral conflict in relation to moral action or yielding to pressure

Whenever healthcare providers and patients interact, disagreement can arise about beliefs, opinions, and values that both parties hold (Jormsri, 2004). When these different opinions or demands clash normatively, the philosophical literature speaks of a moral conflict and requires an incompatible action (Fourie, 2015).

In this study, we focus on moral conflicts that occur when the most rational option from the healthcare provider (based on medical standards, guidelines, and professional ethos) clashes with the opposite option. Most often, the opposite option is an emotionally directed one, the desired one of the patient or involved ones (McConnell, 2018). In other words, a moral conflict can be seen as a situation where one option prevails over the other. For example, when the healthcare professional proposes an evidence-based option A for a patient, but the patient (or relatives) prefers a non-evidence-based option B, the healthcare professional finds him- or herself in a conflict situation. Based on their professional stance, healthcare professionals are intrinsically driven to do good for the patients. However, they are also trained to consider the patient's or the relative's choices. This emotional dimension may blur the correctness of the decision and consequently cause the effect of what we introduce as "yielding

to pressure" inflicted by the emotionally driven, steadfast, compelling patient. Once the healthcare professional yields to pressure (s)he abandons the route of moral action. This reaction of yielding under patient pressure is not something new. It is also a known pitfall in the interaction between patients and doctors. In a study by Little et al. (2004), the degree of perceived pressure appears to be an important predictor of whether someone eventually yields under pressure from the patient (Little et al., 2004). For example, one can imagine a situation where the next of kin of a terminally ill patient claims a novel type of chemotherapy to prolong the life of a beloved one, whereas to the clinician's knowledge, this will only severely impact the quality of the short, remaining life (Kuuppelomäki & Lauri, 1998).

The conflict between the wish to be perceived by the family as a good, involved clinician is opposed to the professional duty of alleviating a patient's suffering. With moral conflicts that have a smaller (perceived) impact, such as the moderately ill patient who persists in getting antibiotics without having any legitimate indication, viewing this as his/her right (Björnsdóttir & Hansen, 2002), can also be experienced as a moral conflict. In such a situation, on the one hand, the demands of the patient are in conflict with the generic responsibility of healthcare providers to prevent antibiotic resistance, and on the other, the desire to keep a good understanding with the patient.

In conflicts such as the above, the factors that make a healthcare professional more likely to resist yielding to pressure and make an ethically and medically justified choice for the right course of moral action are varied. In this paper, we focus on specific attitudes of the healthcare provider that may determine this moral action, namely: moral deliberation, paternalism, and the propensity to disengage morally.

Moral deliberation and paternalism as predictors of moral action

In an earlier study, we found that health professionals adhere to one of the two types of attitudes when encountering a patient: moral deliberate (MSQ-DELIB), and paternalistic (MSQ-PATER) attitude (L. Kuilman, Jansen, Mulder, Middel, & Roodbol, 2020). We defined moral deliberation as a type of medico-ethical decision-making act to help patients determine the best health-related values that can be realized in the clinical situation after considerable deliberation. Healthcare providers with a high propensity towards moral deliberation are often focused on patient's wishes rather than professional norms and values. On the other hand, paternalism entails

that a clinician, in his/her decision making, has a preference for arguments based on rules and regulations. Decisions are established through the interplay between the clinician's opinion, medical knowledge, experience, colleague's opinions, while completely ignoring the will of the patient. Paternalistic healthcare providers will be less interested in engaging with patients.

We assume that during moral conflicts, yielding to pressure would depend on both deliberation and paternalism. When someone has a moral deliberate attitude, there is a high tendency to be maximally focused on the patient's wishes and be more sensitive to appeals from the patient or his/her environment. The result is that the health care professional may be more tempted to give in to the pressure at the cost of medical standards, guidelines, and professional ethos. We, therefore, hypothesize that:

- **H1**: Moral deliberation has a positive relationship with a high risk of yielding to pressure.In contrast, when a healthcare provider has a more paternalistic stance (s)he wants to adhere to the rules and professional standards at all times. Therefore, it is not likely that paternalists will go along with the desires of the patient's desire and yield to pressure.
- **H2**: Paternalism has a negative relationship with a low risk of yielding to pressure.

The dark side of yielding to pressure: moral disengagement

Although moral deliberation contributes to yielding to pressure at the cost of medical standards and guidelines, this may not come without personal costs for the health practitioner. Complying with a patient's request against the moral rules can threaten the healthcare provider's self-image. In order for persons to come this far, they need to deal with this somehow. One way to do this is moral disengagement. Moral disengagement can be defined as a process of cognitive reframing of conduct as being morally acceptable without the necessity of changing one's moral standards (Bandura, 1999). There are various ways to reframe immoral acts into moral ones: downplaying the harmful consequences, using euphemisms to make it sound less bad, or shifting the responsibility for the behavior to someone else (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996a). These moral disengagement ways make it easier for people to deviate from moral standards, rules, and regulations without feeling guilty (Kish-Gephart, Detert, Treviño, Baker, & Martin, 2014).

With regard to yielding to pressure, one can imagine that every healthcare professional has an internal standard that prohibits deviation from moral action. After all, moral action is dictated by rules and regulations in addition to professional ethos, or rather, the inner feeling of the way it ought to be. Nonetheless, when the force is too strong to resist, and someone yields to the pressure, moral disengagement mechanisms may facilitate the healthcare professional to construe a new, convenient 'truth'.

For example, when pressured into prescribing antibiotics without an indication, healthcare professionals may tell themselves that prescribing this desired medication unindicated is a minor issue compared to the action of other colleagues who violate opioid regulations. They may also tell themselves that patients are illegally buying antibiotics online already, so the healthcare professional may better prescribe them when the patients insist. Such "excuses" that a health professional can tell him- or herself can render the ethical misconduct as unrelated to the own moral standards against deviating from medical rules, regulations, or even professional ethos. This thought helps the healthcare provider prescribe to the belief that nothing is done wrong.

Considering the above example, it is clear that the interrelated mechanisms of moral disengagement facilitate unethical behavior. On this basis, we expect that professionals scoring high in moral deliberation, that is, those who tend to go along with patient's demands, can only do so if they can justify the morally questionable behavior for themselves. So, only those who are also prone to moral disengagement will be able to go along with the patient's demands. In other words, moral deliberation will only increase yielding to pressure when moral disengagement is high, and not when it is low. For this, we hypothesize the following:

- **H3**: Moral deliberation and moral disengagement will interact to predict yielding to pressure in a way that moral deliberation will positively predict yielding to pressure when moral disengagement is high rather than low.

We have no reason to expect that paternalism's influence on yielding to pressure is moderated by moral disengagement. After all, we expect paternalists to be unreceptive to pressure. Therefore, the paternalists may not have any inclination to deviate from their self-convinced course of action, and do not need to use moral disengagement mechanisms.

METHOD

Study design, participants, and data collection

In this cross-sectional study, five physician assistant (PA) degree programs and one nurse practitioner (NP) degree program were selected as sources for approaching alumni. As per the European General Data Protection Regulation, the researchers were not granted permission to use the databases of the programs in order to retrieve the email addresses of alumni. For this reason, we sent letters explaining the study to the program administrators, who mailed them to their respective PA and NP alumni. The letter contained a hyperlink to a private web-based system (name). If willing to participate in the survey, the alumni were asked to activate the hyperlink and provide their email contact details. Of the 896 alumni (470 NPs and 426 PAs) the program administrators sent letters to, 294 (176 PAs and 118 NPs) provided their email addresses. We sent an access key to the web-based study questionnaires to these alumni who provided their email addresses. At the end of the online survey period (January–March 2015), 155 respondents had completed all of the questionnaires (response rate of 52.7%). We were unable to test for selection bias, as no information was available about the alumni who did not participate. To prevent missing data, we designed all the survey questions in the forced-choice format.

The dataset used in the current study was the same as the one in previous studies by Kuilman and colleagues (L. Kuilman, Jansen, Middel, Mulder, & Roodbol, 2019; L. Kuilman et al., 2020; L. Kuilman, Jansen, Mulder, & Roodbol, 2020). Variables from that pool were used in the current study but were used to address different hypotheses.

Measurements

Sociodemographic characteristics

The following background characteristics were collected to conduct tests for the comparability of the NP and PA samples: gender, age, religious beliefs, and political affiliation. Respondents were also asked to characterize their working environments as (a) "hospital;" (b) "general practice;" (c) "mental healthcare;" (d) "care for people with mental disabilities;" or (e) "other."

Indicator of Yielding to pressure

In this study, we used two vignettes as indicators of "yielding to pressure". These vignettes, as exhibited in Appendix 1, are regarded as two separate indicators as they tap two distinct dimensions of moral conflict that occurs during1) provider-patient interaction (vignette 1), and 2) provider-colleagues interaction (vignette 2). They both indicate degrees to which healthcare professionals yield to pressure during a moral conflict. On a scale from 0 to 100, we asked the respondents to indicate how likely they are to act in the following ways a) prescribe antibiotics without a medical indication to a demanding patient (vignette 1), and b) discharge a schizophrenic patient from the hospital with oral antibiotics, pressured by the demanding nursing staff to restore calm and order in the nursing ward (vignette 2). A higher score on both vignettes indicated a higher likelihood to yield to pressure at the cost of adherence to rules and regulations.

Indicators of moral deliberation and paternalism

In an earlier study, we validated the two scales MSQ-DELIB and MSQ-PATER, as measures of moral deliberate and paternalistic attitude, respectively. Both scales have a good internal consistency, as indicated by Cronbach's alpha of 0.70 (L. Kuilman et al., 2020). The 4-item MSQ-DELIB contains items like: "As a PA/NP, I must always know how individual patients in my ward should be respectfully approached" and "What is most important in my clinical practice is my relationship with the patients". The 7-item MSQ-PATER scale contains items like: "I always base my actions on the medical knowledge of what is the best treatment, even if the patient protests" and "When I need to make a decision contrary to the will of a patient, I do so accordingly to my opinion about what is good care".

Moral disengagement scale

To measure propensity to morally disengage, we modified the moral disengagement scale of Bandura et al. (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996b) to fit the perspective of general healthcare. For example, item number 32 in Bandura's scale: *"Children are not at fault for misbehaving if their parents force them too much",* was replaced by: *"Medical professionals cannot be held accountable for their mistakes when the government puts them under heavy pressure"*. We invited the respondents to answer 32 statements on a Likert-type scale (1= completely disagree to 5= completely agree). The scale's Cronbach's alpha of 0.85 in our study was consistent with the findings by

Bandura et al. and indicated that translation and adaptation did not affect the internal consistency of the scale. We employed an algorithm to calculate an overall scale score by subtracting the minimum scale score from the raw scale score, dividing this by the scale score's range, multiplied by 100, resulting in scores ranging from 0 to 100%. A higher score indicated a higher propensity to morally disengage.

Statistical analysis

To test our hypotheses, we did a multiple stepwise regression analysis, and calculated cross-products for the interaction terms, all based on the variables that were transformed towards normality (Templeton & Burney, 2016). In step 1, we included the variables age and gender. For step 2, we added either moral deliberation or paternalism and moral disengagement. For step 3, we added the interaction terms to the model, each linked to the independent variable.

Ethical considerations

According to the statement by the Dutch Central Committee on Research Involving Human Subjects (www.ccmo.nl), no institutional review board approval was warranted for this type of survey which required only voluntary participation of professionals. An information letter sent to all respondents notified them of a) purpose of the study, b) the voluntary nature of participation, and c) their right to stop participating in the study at any time. The respondents were also informed that their answers would be completely anonymous, and the information collected would not be used for any purpose other than the study. Furthermore, the letter mentioned the expected average time needed to complete the questionnaires (45 minutes). This study was performed in accordance with the tenets of the Declaration of Helsinki (General Assembly of the World Medical Association, 2014). Only the first author (LK) had access to the encrypted data. The "Strengthening the Reporting of Observational Studies in Epidemiology" (STROBE) checklist was followed as a guideline for reporting observational research.

RESULTS

Sociodemographic characteristics

An overview of the sociodemographic characteristics of the respondents is presented in Table 1. The average age of the respondents was 45.2 years (± 9.1). The majority (70.3%) of the respondents were women. Less than half (46.5%) of the 155 respondents reported being religious, and 13.5% indicated a tendency to vote for a conservative political party. Most of the respondents (72.9%) were employed in hospitals, with a smaller share (14%) working in family medicine (general practice) and the rest working either in mental healthcare (5.8%), care for people with mental disabilities (1.3%), or elsewhere (12.9%).

Table 1: Socio-demographic characteristics of participants stratified to PAs and NPs

Sociodemographic characteristics		Physician Assistant *N = 88*	Nurse Practitioner *N = 67*	Total *N = 155*	(p-value)
Age mean (SD)		42.5 (8.4)	48.8 (8.7)	45.2 (9.1)	< .001#
Gender	Female N (%)	56 (63.6)	53 (79.1)	109 (70.3 %)	.05$
	Male N (%)	32 (36.4)	14 (20.9)	46 (29.7 %)	
Religion	Not religious	48 (54.5)	35 (52.3)	83 (53.5 %)	.54$
	No denomination, but spiritual	3 (3.4)	4 (4.5)	7 (4.5 %)	
	Christian	35 (39.8)	25 (37.3)	60 (38.7 %)	
	Islam	1 (1.1)	0	1 (0.7 %)	
	Other religions	1	3 (4.5)	4 (2.6 %)	
Working environment	Hospital, N (%)	64 (72.7 %)	49 (73.1%)	113 (72.9 %)	.58$
	General practice, N (%)	13 (14.8 %)	7 (10.5 %)	20 (12.9 %)	
	Mental health, N (%)	3 (3.4 %)	6 (9 %)	9 (5.8 %)	
	Disability care, N (%)	1 (1.1 %)	1 (1.5 %)	2 (1.3 %)	
	Other, N (%))	7 (8 %)	4 (5.9 %)	11 (7.1 %)	
Political orientation	Conservative N (%)	15 (17 %)	6 (9 %)	21 (13.5 %)	.14$
	Liberal N (%)	73 (83 %)	61 (91 %)	134 (86.5 %)	

= independent-sample t-test; $ = difference between proportions test

The sociodemographic variables and correlations between them are presented in Table 2.

Table 2: Average scores and correlations across the scales themselves and with sociodemographic parameters

Sociodemographics			**[1]**	**[2]**	**[3]**	**[4]**	**[5]**	**[6]**	**[7]**	**[8]**	**[9]**
Age	**[1]**										
Gender	**[2]**		.041								
Religion	**[3]**		.003	-.039							
political orientation	**[4]**		**.167***	-.032	**-.160***						
Working environment	**[5]**		-.008	-.001	-.033	.148					
Independent variables		**M (SD)**									
Moral deliberation	**[6]**	81.4 (10.9)	.066	.020	.020	-.025	.091				
Paternalism	**[7]**	52.9 (12.5)	**-.231****	**.198***	.119	-.113	.005	.027			
Moderator		**M (SD)**									
Moral Disengagement	**[8]**	21.0 (8.5)	-.137	.113	-.019	-.005	-.033	**-.166***	**.196***		
Depdent variables		**M (SD)**									
Yielding to Pressure Vignette 1	**[9]**	21.5 (24.0)	-.036	**-.183***	.001	.001	.063	**.192***	-.013	**.158***	
Yielding to Pressure Vignette 2	**[10]**	47.3 (26.7)	.084	-.024	.045	-.088	-.096	**-.271****	.002	.067	-.072

=Correlationissignificantatthe0.05level(2-tailed);=Correlationissignificantatthe0.01level(2-tailed).*

Multivariable regression analysis

Upfront of all interpretations of the outcomes, we first assessed for multicollinearity, as that might be a potential threat in a cross-sectional data collection method. For

this, we used two essential parameters, namely 'Tolerance' and 'Variance Inflation Factor' (VIF). Considering all the Tolerances being well above 0.1 and all VIFs far below 10 (see Tables 3 and 4), we excluded the presence of multicollinearity that could have affected the outcomes (Dormann et al., 2013).

As can be seen in Table 2, both age and gender correlated with Paternalism. For this reason, we included these variables in the multiple regression in Step 1. In explaining the yielding to pressure in vignette 1 (unnecessary prescription of antibiotics), only gender remained a significant predictor of yielding to pressure (see Table 3 and 4). Interpretation of this outcome learns that male (coded as '1') providers in this study are less prone to yield to pressure. This effect, however, was not the case for yielding to pressure in vignette 2.

Predictors of Yielding to pressure

Regarding hypotheses 1 and 2, we assumed that both moral deliberation and paternalism would regress positively and negatively respectively on the propensity of yielding to pressure in vignettes 1 and 2. However, only hypothesis 1 could be partly affirmed (see Table 3) in relation to yielding to pressure in vignette 1. That is, even though moral deliberation behaves as a predictor for both vignettes, for vignette 1 there is a positive relationship (***b***= .244, t= 3.062, p= .003) and for vignette 2, moral deliberation turns out to be a negative statistically significant (***b*** = -.252, t= -3.126, p= .002) predictor.

Furthermore, we also had to reject hypotheses 3 and 4 because moral disengagement did neither moderate (cross-product: DELIB*MDS) the relationship between moral deliberation and the propensity of yielding to pressure in vignette 1 and 2, nor did it moderate (cross-product: PATER*MDS) the relationship between paternalism and the propensity of yielding to pressure.

Table 3: Multiple regression analysis with Moral deliberation as independent variable

		Vignette 1 "Unindicated antibiotics"				Vignette 2 "Schizophrenic patient"			
		Beta	Sig.	Collinearity Statistics		Beta	Sig.	Collinearity Statistics	
Model				Tolerance	VIF			Tolerance	VIF
1	(Constant)		.005				.001		
	Age	-.029	.721	.998	1.002	.085	.294	.998	1.002
	Gender	-.181	**.024**	.998	1.002	-.027	.738	.998	1.002
2	(Constant)		.006				.002		
	Age	-.013	.870	.976	1.024	.109	.172	.976	1.024
	Gender	-.211	**.007**	.983	1.018	-.027	.731	.983	1.018
	Moral deliberation	.233	**.003**	.969	1.032	-.271	**.001**	.969	1.032
	Moral disengagement	.219	**.006**	.942	1.062	.040	.619	.942	1.062
3	(Constant)		.005				.001		
	Age	-.022	.784	.953	1.049	.088	.268	.953	1.049
	Gender	-.215	**.006**	.978	1.022	-.036	.648	.978	1.022
	Moral deliberation	.243	**.003**	.942	1.061	-.249	**.002**	.942	1.061
	Moral disengagement	.218	**.007**	.942	1.062	.038	.636	.942	1.062
	DELIB*MDS$	.057	.468	.946	1.057	.131	.102	.946	1.057

$ = cross-product of Moral deliberation x moral disengagement; # = cross-product of Paternalism x moral disengagement

Table 4: Multiple regression analysis with Paternalism as independent variable

		Vignette 1 "Unindicated antibiotics"				Vignette 2 "Schizophrenic patient"			
		Beta	Sig.	Collinearity Statistics		Beta	Sig.	Collinearity Statistics	
Model				Tolerance	VIF			Tolerance	VIF
1	(Constant)		.005				.001		
	Age	-.029	.721	.998	1.002	.085	.294	.998	1.002
	Gender	-.181	**.024**	.998	1.002	-.027	.738	.998	1.002
2	(Constant)		.012				.003		
	Age	-.005	.950	.929	1.077	.101	.232	.929	1.077
	Gender	-.201	**.014**	.946	1.057	-.040	.629	.946	1.057
	Paternalism	-.010	.905	.883	1.132	.017	.841	.883	1.132
	Moral disengagement	.182	**.026**	.946	1.058	.082	.326	.946	1.058
3	(Constant)		.013				.003		
	Age	-.006	.944	.924	1.082	.097	.253	.924	1.082
	Gender	-.201	**.015**	.945	1.058	-.042	.620	.945	1.058
	Paternalism	-.008	.926	.839	1.192	.030	.734	.839	1.192
	Moral disengagement	.181	**.028**	.936	1.068	.077	.362	.936	1.068
	PATER*MDS#	.009	.916	.933	1.072	.055	.517	.933	1.072

= cross-product of Paternalism x moral disengagement

DISCUSSION

The study's primary aim was to assess the predictive value of a morally deliberative attitude and a paternalistic attitude on yielding to pressure in situations where healthcare professionals (NPs and PAs) are confronted with a moral conflict. We expected that the moral deliberate attitude would increase (H1), and the paternalistic attitude would decrease (H2), yielding to pressure. Also, we expected the cognitive process of moral disengagement to have a strengthening effect on the relationship between moral deliberative attitude and the propensity of yielding to pressure (H3).

The data gave partial support for hypothesis 1 as moral deliberation *positively* predicted yielding to pressure in the antibiotic scenario. However, it *negatively* predicted yielding to pressure in the schizophrenic patient scenario. Both these effects were not moderated by propensity to morally disengage, rejecting hypothesis

3. Paternalism did not affect yielding to pressure in either vignette, therefore rejecting hypotheses 2.

Although moral deliberation regresses positively on yielding to pressure in vignette 1 (unindicated antibiotics), it is quite remarkable that it regresses *negatively* on yielding to pressure in vignette 2 (the schizophrenic patient). A possible interpretation of this may lie in the different sources of pressure in both scenarios. In vignette 1, it is the patient himself who exerts pressure on the healthcare professional. In that sense, the patient is the subject of the story in vignette 1, whereas, in vignette 2, it is the nursing staff who puts pressure on the clinician to dismiss the patient to restore calm and order. Since a healthcare professional with a high degree of moral deliberation attitude is entirely focused on the patient, it makes sense that (s)he is more likely to yield to pressure when a patients exerts pressure (e.g., in vignette 1). In contrast, (s)he is less likely to yield to pressure when this pressure is exerted by someone who chooses side against the patient (e.g., in vignette 2). Whether the source of the pressure (patient, colleagues, administration, or the patients' family) influences the direction of moral deliberation is an interesting avenue for further research.

Furthermore, we expected a negative relationship between paternalism and yielding to pressure since individuals with a paternalistic stance will adhere to the rules and the own professional standards at all times and thus would be less likely to yield to pressure to deviate from these rules and standards. However, the results show no relation between paternalism and yielding to pressure. Thus, at this moment, there is no credible evidence to support our hypothesis (H2). Looking at the results, we also see no reason to expect that a significant relationship will be found when retesting the hypothesis among a larger sample. Apparently, adherence to one's decision, rules and guidelines, as measured by our paternalism scale, is unrelated to "yield to pressure". It may be more fruitful in further research to focus on other personality traits that measure persistence more directly and are not necessarily related to the specific medical context.

Strengths and limitations

One strength of this study is that a representative sample was used in terms of gender and age, reflecting the demographics of both the NP and PA workforces in the Netherlands (Laurant, van de Camp, Boerboom, & Wijers, 2014). For this reason, the results of moral deliberation being a predictor of yielding to pressure when

occurring in a direct patient-healthcare professional interaction can be generalized to the NP and PA. This could be applied to professionals with comparable independent treatment relationships (e.g., medical doctors, physical therapists, speech therapists, or dental hygienists).

In methodological terms, another strength of our study is that we a priori determined the required sample size (*n*=68) for multivariable regression analysis using interaction terms, which was well above the factual sample-size of 155 respondents (Faul, Erdfelder, Buchner, & Lang, 2009). Besides, despite the cross-sectional nature of the data, the Harman's single-factor analyses indicated that single factors for the different models ranged from 15.0 to 26.4 % of the total variance. Given the maximum threshold of 50%, common method variance had little to no effect on the conclusions drawn (Podsakoff & Organ, 1986). Last but not least, both the Tolerance as also the Variance Inflation Factor (VIF) used as collinearity diagnostics were well above and below the acceptable thresholds, respectively. This enabled us to rule out the possible phenomenon of multicollinearity impacting our outcomes (Dormann et al., 2013).

Our study is also subject to several limitations. Even though the correlations between several study variables were statistically significant, their explained variances were relatively low. Therefore, it should be clear that many other factors not included in this study could explain or influence yielding to pressure. Primarily because of the low explained variances, future research is needed to explore other factors that could explain the concept of yielding to pressure.

IMPLICATIONS

Our study suggests that a moral deliberate attitude induces a higher risk of yielding to pressure exerted by a patient (vignette 1) while it induces a lower risk of yielding to pressure exerted by other people in the immediate work environment (vignette 2). Although further research is needed to test the influence of the source of pressure, our findings have implications for how healthcare professionals are trained. More specifically, habituation of healthcare and nursing students may be increased during simulation-education with scenarios that incorporate aspects of pressure, such as the demanding, aggressive patient. While in training, attention is paid in dealing with pressure from patients, especially the individuals who have an increased tendency of patient-orientation. The students should also be equipped with skills and techniques

on how to remain patient-oriented and, at the same time, not yield to pressure. In addition to that, they could be trained to learn to stick to the moral choice ultimately.

CONCLUSION

This study suggests that yielding to pressure is influenced by moral deliberation and not by paternalism. More specifically, it suggests that that healthcare professionals with a high degree of moral deliberation are more prone to yield to pressure exerted by a patient and less prone to yield to other types of pressures that seem to go against the patient's interest. However, further research is needed to reach more definite conclusions.

REFERENCES

Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. Personality and Social Psychology Review, 3(3), 193-209.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996a). Mechanisms of moral disengagement in the exercise of moral agency. Journal of Personality and Social Psychology, 71(2), 364.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996b). Mechanisms of moral disengagement in the exercise of moral agency. Journal of Personality and Social Psychology, 71(2), 364.

Barlem, E. L. D., & Ramos, F. R. S. (2015). Constructing a theoretical model of moral distress. Nursing Ethics, 22(5), 608-615.

Björnsdóttir, I., & Hansen, E. H. (2002). Ethical dilemmas in antibiotic prescribing: analysis of everyday practice. Journal of Clinical Pharmacy & Therapeutics, 27(6), 431-440. doi:10.1046/j.1365-2710.2002.00442.x

Dormann, C. F., Elith, J., Bacher, S., Buchmann, C., Carl, G., Carré, G., . . . Leitao, P. J. (2013). Collinearity: a review of methods to deal with it and a simulation study evaluating their performance. Ecography, 36(1), 27-46.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. Behavior Research Methods, 41(4), 1149-1160.

Ford, P. (2000). Is the Internet changing the relationship between consumers and practitioners? Journal for Healthcare Quality : Official Publication of the National Association for Healthcare Quality, 22(5), 41-43. doi:10.1111/j.1945-1474.2000.tb00152.x [doi]

Fourie, C. (2015). Moral distress and moral conflict in clinical ethics. Bioethics, 29(2), 91-97.

General Assembly of the World Medical Association. (2014). World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects. The Journal of the American College of Dentists, 81(3), 14-18.

Jacobson, P. (2007). Empowering the physician-patient relationship: The effect of the Internet. Partnership: The Canadian Journal of Library and Information Practice and Research, 2(1)

Jormsri, P. (2004). Moral conflict and collaborative mode as moral conflict resolution in health care. Nursing & Health Sciences, 6(3), 217-221.

Kish-Gephart, J., Detert, J., Treviño, L. K., Baker, V., & Martin, S. (2014). Situational moral disengagement: Can the effects of self-interest be mitigated? Journal of Business Ethics, 125(2), 267-285.

Kuilman, L., Jansen, G. J., Middel, B., Mulder, L. B., & Roodbol, P. F. (2019). Moral reasoning explained by personality traits and moral disengagement: A study among Dutch nurse practitioners and physician assistants. Journal of Advanced Nursing, 75(6), 1252-1262.

Kuilman, L., Jansen, G. J., Mulder, L. B., Middel, B., & Roodbol, P. F. (2020). Re assessing the validity of the Moral Sensitivity Questionnaire (MSQ): Two new scales for moral deliberation and paternalism. Journal of Evaluation in Clinical Practice,

Kuilman, L., Jansen, G., Mulder, L. B., & Roodbol, P. (2020). Facilitating and motivating factors for reporting reprehensible conduct in care: A study among nurse practitioners and physician assistants in the Netherlands. Journal of Evaluation in Clinical Practice, doi:10.1111/jep.13462 [doi]

Kuuppelomäki, M., & Lauri, S. (1998). Ethical Dilemmas in the Care of Patients with Incurable Cancer. Nursing Ethics, 5(4), 294-306.

Laurant, M., van de Camp, K., Boerboom, L., & Wijers, N. (2014). Een studie naar functieprofielen, taken en verantwoordelijkheden van Physician Assistants en Verpleegkundig Specialisten. Scientific Institute for Quality of Healthcare Radboudumc: BMJ Publishing Group,

Little, P., Dorward, M., Warner, G., Stephens, K., Senior, J., & Moore, M. (2004). Importance of patient pressure and perceived pressure and perceived medical need for investigations, referral, and prescribing in primary care: nested observational study. BMJ (Clinical Research Ed.), 328(7437), 444. doi:10.1136/bmj.38013.644086.7C [doi]

McConnell, T. (2018). Moral Dilemmas. Retrieved from https://plato.stanford.edu/entries/moral-dilemmas/#TypMorDil

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. Journal of Management, 12(4), 531-544.

Saarni, S. I., Halila, R., Palmu, P., & Vanska, J. (2008). Ethically problematic treatment decisions in different medical specialties. Journal of Medical Ethics, 34(4), 262-267. doi:10.1136/jme.2007.020529; 10.1136/jme.2007.020529

Stiggelbout, A. M., Van der Weijden, T., De Wit, M. P., Frosch, D., Légaré, F., Montori, V. M., . . . Elwyn, G. (2012). Shared decision making: really putting patients at the centre of healthcare. BMJ: British Medical Journal (Online), 344

Templeton, G. F., & Burney, L. L. (2016). Using a Two-Step Transformation to Address Non-Normality from a Business Value of Information Technology Perspective. Journal of Information Systems, 31(2), 149-164.

Appendix 1: Vignettes indicating Yielding to Pressure

Indicator	Vignette
Yielding to pressure	**Coughing for three weeks, "I want antibiotics now!" (vignette 1)** You have been working as a physician assistant at a general practice in Northeast Groningen for several years and you are now a familiar face, even with patients. On a Friday afternoon at 4.50 pm just before the consultation hour has ended, Mr. Wolderman, a well-known tenor, reports to the desk and with a loud voice he wants an appointment immediately. He says that he has been suffering from a persistent dry cough for over 1 week and is demanding antibiotics just before the weekend. The medical history does not report alarm symptoms, the physical examination does not indicate an infection, there is no fever and the CRP rapid test shows <10 mg / L. In short, you have no indication to prescribe antibiotics. The patient is incensed and still demands a cure in a verbally aggressive manner. You explain that in accordance with the guideline of the Nederlandse Huisartsen Genootschap M78, "Acute coughing" there is absolutely no indication to prescribe antibiotics. Mr. Wolderman kindles in anger because he has a solo part in the Matthew Passion in the Oosterpoort in Groningen.

The stinky patient! (vignette 2)

As a physician assistant, you are the first medical point of contact for all matters that arise daily in the lung medicine nursing department. Last night, a 54-year-old homeless man with schizophrenia in poor condition was admitted after a major exacerbation. A day after the admission, a medical assistant reports that the patient spreads an intolerable, pungent, stench. As a homeless person, he has been wearing the same clothes for eight months, 24 hours a day. The patient reacts violently to the offer to wash the clothes, because he says: without this "magical robe" I am defenseless against evil. The situation in the room is unsustainable, he doesn't want to shower and no other clothes, and his roommates want him to sleep separately. The tension mounts when it appears that the only single room is occupied by a terminal lung cancer patient. To make matters worse, all surrounding hospitals do not have single rooms available. Your hospital's psychiatry department is prepared to have the patient continue treatment there until he is well again. The patient absolutely does not want this and knows that he cannot be forced to be admitted there. The tensions that are evoked in this conflicting situation make the patient speak louder and louder in his head. This increases the fear of his roommates even more. You are considering sending him out with enough antibiotics. For the patient this means back in his homeless life. There is a great risk that the antibiotics will no longer be taken and the course of treatment will not be completed.

CHAPTER 6

Summarizing Discussion and Future Research Directions

6.1 Background of the conducted PhD research

The studies being presented in this doctoral thesis concern research being completed in the context of a PhD track. The aims of the PhD research were to assess antecedents of (un)ethical conduct among Physician Assistants and Nurse Practitioners since this has not been attempted before, neither in the Netherlands nor globally. However, for doing so, first the necessary indicators for the constructs of the FCM, moral disengagement, and perceived behavioral control had to be both translated or developed and consequently validated. All in order to assess them as appropriate antecedent, explanatory variables towards ethical conduct. Regarding this (un)ethical conduct as examined in this doctoral research, two novel constructs are also introduced to the international pile of literature regarding (un)ethical decision-making, namely that of 'reporting reprehensible conduct' and 'yielding to pressure.'

In this summarizing discussion, the main findings of the studies are made explicit and suggestions will be made for future research possibilities. Next to that, based on the main findings, the practical relevancies will be highlighted as an impetus for furthermore enriching PA and NP training regarding assumed ethical conduct and correspondingly the awareness of being confronted with moral issues after graduation.

6.2 Summary of main findings

In this paragraph brief descriptions will be given regarding the main outcomes of the separate studies as reported in Chapter 2, Chapter 3, Chapter 4, and Chapter 5.

In **Chapter 2,** the outcomes of a validation study are reported (L. Kuilman, Jansen, Mulder, Middel, & Roodbol, 2020-a). With the initial plan of modifying and validating a context-specific version of the Moral Sensitivity Questionnaire the findings turned out to be completely different from those anticipated at the start of the study. Whereas Lützén et al. maintained their claim of the MSQ measuring six dimensions of moral sensitivity (Lützén, Evertzon, & Nordin, 1997), in the study conducted for this Ph.D. research by both exploratory as also confirmatory factor analysis, there was no reason to maintain this theory for the instrument used among the included samples. Instead, I extracted and confirmed two novel scales that measure two types of attitude, namely those of a morally deliberate attitude (MSQ-DELIB) and that of a paternalistic attitude (MSQ-PATER). Both scales show good construct validity and

appropriate mean inter-item correlation coefficients show adequate homogeneities. Whereas upfront it was expected to possess a modified MSQ as an indicator of the construct of moral sensitivity with the FCM, I now have two separate indicators that might be proxies for indicating morally (in)sensitive attitudes. For this, I conducted a subsequent study to assess the predictive value of both scales. The results of that study are reported in Chapter 5.

In **Chapter 3,** the usefulness of the Dutch version of the Defining Issues Test was determined as an indicator for the construct of moral reasoning/judgment in the FCM (Raaijmakers, Engels, & Van Hoof, 2005). For this, in the performed study, I investigated whether the construct of moral reasoning is a function of the personality meta-trait Stability and the construct of moral disengagement (Kuilman et al., 2019). The personality meta-traits, Stability, and Plasticity are based on the big five personality traits and were introduced as higher-order personality factors (Digman, 1997). In the study reported about in my doctoral thesis in Chapter 3, the meta-trait Stability reflects the extent to which an individual is consistent in motivation and avoids social interactions and disruptions in mood, while Plasticity reflects the extent to which a person actively searches for new and rewarding experiences, or explores and engages flexibly with novelty, both intellectual and social. With the tenability of the hypothesized model, by applying structural equation modelling, it is proven that Stability indeed is a significant predictor and that moral disengagement has a mediating effect on the relationship between Stability and moral reasoning. Plasticity did not exert a direct effect on moral reasoning. In retrospect, an important achievement is that with this study, the personality meta-trait Stability has been introduced in the scholarly field of ethical decision-making research.

In **Chapter 4,** I tested and found that the newly introduced concept of Ethics Advocacy, as a source of moral motivation being the third component in the FCM, explains whether an individual will have the propensity of reporting reprehensible conduct (RRC). Ethics Advocacy entails the extent to which healthcare professionals consider it important for attention to be paid to the ethical aspects of care within their organization and during patient contact. In this study it was found that a high degree of EA only predicts RRC at a time once an individual has a high perceived control (L. Kuilman, Jansen, Mulder, & Roodbol, 2020-b). This was found by including the newly introduced construct of "Behavioral Control targeted at Preventing Harm" (BCPH) as a moderator in the hypothesized model. That is, BCPH strengthens the relationship

between Ethics Advocacy and the reporting reprehensible conduct as a variable to be explained. In other words, Ethics Advocacy only increased the intentions to report reprehensible conduct if people at the same time felt they had control over situations of preventing harm. This is an important finding and adds to the understanding that the ethical decision-making process is not only rational, but also involves personal feelings and perceptions which may play intervening roles in the realization of (un) ethical choices.

In **Chapter 5,** the indicator of (un)ethical conduct was introduced as the construct of 'Yielding to Pressure.' Whereas in Chapter 4, the dependent variables of 'reporting reprehensible conduct' were about the observation of unethical conduct outside the self, the 'yielding to pressure' indicators in Chapter 5 are linked to the own set of moral standards. The two vignettes contained a situation in which there is a moral conflict where a choice had to be made between sticking to one's own standards, norms, and values or going along with the demanding patient or pressure from the immediate work environment. With the primary aim of validating the predictive values of the MSQ-DELIB and MSQ-PATER scales (as reported in Chapter 2), we can conclude that the main finding in this study is that morally deliberative attitudes influence the risk that healthcare providers give in to pressure exerted by patients. However, the direction of that influence depended on the specific behavioral scenario presented to them in the study. In a scenario involving a direct provider-patient interaction moral deliberation increased the extent to which one yielded to pressure. In the scenario where it was about pressure from colleagues, moral deliberate attitude lowered the degree to which one yielded pressure. However, the reason as to why these relations behave in an opposite manner warrant subsequent research.

Notwithstanding, with this finding, a new indicator of moral sensitivity/ awareness will be added to the international pile of literature regarding this usable indicator within the FCM.

6.3 Strengths and limitations

The strengths of this doctoral work are its educational and professional relevance for both the PA also NP profession, the consistent use of constructs derived from widely used and established theories (FCM, moral disengagement theory, and theory of planned behavior), but also the methodological rigor.

The research presented in this doctoral thesis is relevant because the included respondents concern a representative sample given the average socio-demographic characteristics like age and gender of the two national occupational groups of both the PA and NP professionals (Aalbers, Van de Leemkolk, & Van der Velde, 2019; Van de Leemkolk & Van der Velde, 2019). To a certain extent, it can therefore, be stated that the results of the studies performed and presented in this doctoral thesis can be generalized to the two professional groups at large. Even though the representative sample is based on a rather moderately acceptable response rate, a certain degree of selection bias can never be ruled out. Furthermore as to whether the results can be applicable to other independent health professionals is also open to further research. The relevancy and practical implication for both education and practice will be summarized in paragraph 6.3.

With respect to consistent use of the collected data the outcomes have a solid theoretical foundation derived from established theories regarding ethical decision-making, moral disengagement, and behavioral aspects (Ajzen, 1991; Bandura, 1999; Rest, Thoma, & Bebeau, 1999). All the validated, translated, and self-developed questionnaires are appropriately selected indicators of constructs of the aforementioned theories. Furthermore, research outcomes contributed to the explanation of (un)ethical conduct.

Initially, i.e., upfront of this doctoral research, the idea existed to analyze all FCM components in a process-based manner since James Rest posited his model as the composition of logically and chronologically evolving variables during the ethical decision-making process. However, advancing insights made us decide to deviate from that linear, logical approach and zoom in to the separate constructs (M. J. Bebeau, Rest, & Narvaez, 1999). Especially so because empirical evidence strongly advises against such approaches (M. Bebeau, 2002), and some even propose the necessity of remodelling the FCM (Curzer, 2014). It is also worth mentioning that a few close colleagues of James Rest, in a later study, have refuted the initial assumption of the logical and chronological order in the ethical decision-making by proving the FCM components' independence, which in the end also may explain the absent to low correlations between the constructs found in our work (You & Bebeau, 2013).

Regarding the methodological rigor, in this thesis, there is a deliberate use of different analytical approaches ranging from regression analysis to path analysis and

confirmatory factor analysis. However, as addressed in all articles, the cross-sectional collection of the research data, however, was something that, retrospectively, could have been done differently. Primarily I collected data for validating the developed and adapted questionnaires and test theoretical hypotheses. However, with this one-time only collection of data there are limits to the results' generalizability. After all, it remains to be tested to what extent the results of my studies will replicate in other respondent groups and other contexts.

With regard to the cross-sectional nature of the data, I tackled some potential methodological omissions by employing the Harman's single factor test to rule out common method bias (Podsakoff & Organ, 1986) and have I also excluded the presence of multicollinearity by addressing the Tolerance and Variance Inflation Factors (Dormann et al., 2013). Nevertheless, the cross-sectional nature of the studies makes it hard to draw conclusions about causality. I cannot rule that third factors might form an alternative explanation of some of the effects found. Therefore, longitudinal or experimental follow-up research is recommended.

Although this doctoral work has been initiated from a rationalistic approach, there is still much to be done when it comes to research into ethical decision-making at the level of the less tangible processes such as intuition, affect, empathy, and many other implicit processes that underlie the continuous calibration of our moral compass. Although the aim of my doctoral research primarily concerned the psychometric testing of (adapted) questionnaires and instruments, one may argue that the research field of ethical decision-making is also open for phenomenological exploration. Supplementing with qualitative research forms, such as interviews, focus groups or observational studies would provide a broader conceptual view of the research domain.

6.4 Practical implications and future research

Based on the main outcomes of the studies summarized in paragraph 6.2, it can be concluded that all performed studies brought new findings with inherently practical implications and/or future directions for subsequent research. In this paragraph, the practical implications of the main findings are summarised and brought into the perspective of what they could imply towards educations and/ or practice and future research.

With respect to the main findings of having validated two novel scales measuring a moral deliberative attitude (MSQ-DELIB) and a paternalistic attitude (MSQ-PATER), as reported in **Chapter 2** of this doctoral thesis, it can be stated that both scales can be introduced in both educational as also professional practice. The scales can be administered among PA and NP students and professionals to measure their morally deliberative and paternalistic attitudes, respectively. However, the MSQ-DELIB could also be used as a diagnostic tool towards estimating the propensity of yielding to pressure. After all, this has been a finding in the study as being reported in **Chapter 5**, where it was found that individuals with a high degree of a morally deliberative attitude are at risk of yielding to pressure when this occurs within a direct provider-patient interaction. When the pressure occurred within a professional interaction, there was no risk of yielding to pressure. However, the reason why this occurred is subject to further research. With respect to the effect occurring in the direct provider-patient interaction, one can imagine that during training, especially students who have a high degree of a morally deliberative attitude should be made aware of the risks of yielding to pressure and to prevent them end up making unethical choices. This could be elucidated during training sessions, including simulated patient encounters where the patient plays a demanding role. In this, it is also of a paramount importance to prepare the students to such possible situations and also make them learn to recognize the emotional patterns involved. The last could be very well orchestrated during moral case deliberation sessions with peers (Molewijk, Kleinlugtenbelt, & Widdershoven, 2011).

Regarding the paternalistic attitude, against all odds, we have not been able to validate the predictive value towards (un)ethical behavior. Even though the scale MSQ-PATER could function as an appropriate 'thermometer' to get an indication to which extent someone has a paternalistic attitude, for now, it does not go any further than that. We can imagine that the scale might demonstrate added value towards subjects of, for example, shared decision-making (SDM), motivational interviewing, and other communication techniques, in which the role of both the healthcare provider and the patient must be based on equality and reciprocity to achieve treatment success upon mutual agreement (Sandman & Munthe, 2010). Furthermore, a recent study elicited that in general physicians prefer SDM but fall back to the well-known paternalistic basic attitude. As proposed by Diever et al. (2020), our MSQ-PATER could be used to raise awareness of the decision process itself (Driever, Stiggelbout, & Brand, 2020).

Regarding the study performed in **Chapter 3** were we assessed whether the level of moral reasoning is a function of the personality meta-traits Stability and Plasticity, and if this is partially explained by the level of moral disengagement the practical implications are two-fold. First, personality is largely stable during the lifespan and therefore besides practicing and/or attending moral case-deliberation sessions, the level of moral reasoning will not be brought to a higher level. Nevertheless, creating and raising awareness is already a very good first step into moral practice. This is especially so because we found that moral disengagement plays a pivotal role in the relationship between the personality meta-trait Stability and the level of moral reasoning. By clearly addressing the danger of detrimental conduct because of (selective) activation of (un)conscious moral disengagement, one may expect that individuals will become more vigilant towards the dark side of ethical decision-making (Welsh, Baer, Sessions, & Garud, 2020).

In **Chapters 4** and **5,** the dependent variables reflected several types of (un)ethical behavior. With respect to the newly introduced construct of 'reporting reprehensible conduct' in **Chapter 4,** we noticed that individuals who attach importance of ethical aspects in care to a high degree only report morally questionable behavior they observe from their colleagues at the time that they perceive a high degree of self-efficacy. With respect to reporting reprehensible conduct, I can imagine that it is absolutely important to introduce such situations already in an early phase of the training program. After all, having a high degree of Ethics Advocacy alone is not enough, one also needs to experience high behavioral control. Furthermore, besides the highly self-perceived behavioral control, it for certain also must mean that someone needs to possess a high degree of moral courage to report the morally questionable behavior of a colleague (Lachman, 2008). Future research may look into reporting reprehensible conduct as a dual processing model where besides Ethics Advocacy also moral courage are assessed as precursors (Watts & Buckley, 2017).

With respect to the behavioral variable reflecting the newly introduced phenomenon of 'yielding to pressure' in **Chapter 5,** we have proposed that habituation in simulated-education experiences may protect vulnerable students (read: those who are highly morally deliberate in their attitude) from yielding to pressure. However, as mentioned earlier, in the study, it was found that yielding to pressure depends on the source of pressure. This might create a venue for future research and be re-tested with other vignettes. Another issue worth exploring further is that even though we

hypothesized that moral disengagement would play a pivotal role, no moderation occurred. Where the vignettes 'harmless' and therefore not triggering the necessity of moral disengagement?

Also, future research might look into the more non-deliberate explanatory variables like affect, intuition, personality, and sympathy (Rainone, Watts, Mulhearn, McIntosh, & Medeiros, 2020; Watts & Buckley, 2017). For this reason future research should include phenomenological approaches. The motives regarding (un)ethical behavior can possibly be better brought into the limelight by having interviews and focus groups with informants. Hereto both students, as also PA and NP professionals could be subject of study. Finally, given the fact that my studies are just a first step towards extensively studying ethical decision-making among Physician Assistants and Nurse Practitioners, it would be of great merit to set up replication studies to see if the results found in my studies can be validated in other professional professions and contexts.

6.5 Conclusions

As summarized in paragraph 6.3 all the performed studies in the scope of this doctoral thesis have practical implications that might impact the training programs of PAs and NPs to some extent. At the very least, and in all modesty, it may be said that a start has been made to examine parts of the ethical decision-making process among PAs and NPs. Further evaluations and discussions about this important and not to be neglected topics in healthcare education would already be a very important merit of this Ph.D. research.

In general, it may be concluded that I have addressed the research aims that formed the basis of this present doctoral research. I have been able to identify and validate all the instruments that were chosen and used as indicators of the constructs for 'moral sensitivity,' 'moral reasoning,' 'moral motivation,' 'moral character and implementation,' besides 'moral disengagement' and 'perceived behavioral control targeted at preventing harm.' Next to that, in this doctoral research, four vignettes have been developed to assess several types of (un)ethical choice, namely that of: 'reporting reprehensible conduct' and 'yielding to pressure.'

REFERENCES

Aalbers, W., Van de Leemkolk, B., & Van der Velde, F. (2019). Alumni of the Master Physician Assistant program. (). Retrieved from https://zorgmasters.nl/extdocs/2020_03_02-4-1-Rapportage-Alumni-PA-2019.pdf

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179-211.

Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. Personality and Social Psychology Review, 3(3), 193-209.

Bebeau, M. J., Rest, J. R., & Narvaez, D. (1999). Beyond the promise: A perspective on research in moral education. Educational Researcher, 28(4), 18-26.

Bebeau, M. (2002). The Defining Issues Test and the Four Component Model: Contributions to professional education. Journal of Moral Education, 31(3), 271-295. doi:10.1080/0305724022000008115

Curzer, H. J. (2014). Tweaking the four-component model. Journal of Moral Education, 43(1), 104-123.

Digman, J. M. (1997). Higher-order factors of the Big Five. Journal of Personality and Social Psychology, 73(6), 1246.

Dormann, C. F., Elith, J., Bacher, S., Buchmann, C., Carl, G., Carré, G., . . . Leitao, P. J. (2013). Collinearity: a review of methods to deal with it and a simulation study evaluating their performance. Ecography, 36(1), 27-46.

Driever, E. M., Stiggelbout, A. M., & Brand, P. L. (2020). Shared decision making: physicians' preferred role, usual role and their perception of its key components. Patient Education and Counseling, 103(1), 77-82.

Kuilman, L., Jansen, G. J., Middel, B., Mulder, L. B., & Roodbol, P. F. (2019). Moral reasoning explained by personality traits and moral disengagement: a study among Dutch nurse practitioners and physician assistants. Journal of advanced nursing, 75(6), 1252-1262

Kuilman, L., Jansen, G. J., Mulder, L. B., Middel, B., & Roodbol, P. F. (2020-a). Re-assessing the validity of the Moral Sensitivity Questionnaire (MSQ): Two new scales for moral deliberation and paternalism. Journal of evaluation in clinical practice, 26(2), 659-669.

Kuilman, L., Jansen, G., Mulder, L. B., & Roodbol, P. (2020-b). Facilitating and motivating factors for reporting reprehensible conduct in care: A study among nurse practitioners and physician assistants in the Netherlands. Journal of Evaluation in Clinical Practice, doi:10.1111/jep.13462 [doi]

Lachman, V. D. (2008). Whistleblowers: troublemakers or virtuous nurses? Medsurg Nursing, 17(2), 126.

Lutzen, K., Evertzon, M., & Nordin, C. (1997). Moral sensitivity in psychiatric practice. Nursing Ethics, 4(6), 472-482. doi:10.1177/096973309700400604

Molewijk, B., Kleinlugtenbelt, D., & Widdershoven, G. (2011). The role of emotions in moral case deliberation: theory, practice, and methodology. Bioethics, 25(7), 383-393.

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. Journal of Management, 12(4), 531-544.

Raaijmakers, Q., Engels, R., & Van Hoof, A. (2005). Delinquency and moral reasoning in adolescence and young adulthood. International Journal of Behavioral Development, 29(3), 247-258. doi:10.1080/01650250544000035

Rainone, N. A., Watts, L. L., Mulhearn, T. J., McIntosh, T. J., & Medeiros, K. E. (2020). The impact of happy and sad affective states on biases in ethical decision making. Ethics & Behavior, , 1-17.

Rest, J. R., Thoma, S. J., & Bebeau, M. J. (1999). Postconventional moral thinking: A neo-Kohlbergian approach Psychology Press.

Sandman, L., & Munthe, C. (2010). Shared decision making, paternalism and patient choice. Health Care Analysis, 18(1), 60-84.

Van de Leemkolk, B., & Van der Velde, F. (2019). Alumni of the master's programs for nursing specialists Alumni of the two-year MANP program and the three-year GGZ-VS categorical program. (). Retrieved from https://zorgmasters.nl/extdocs/5-0-Rapportage-VS-2019-Prismant.pdf

Watts, L. L., & Buckley, M. R. (2017). A dual-processing model of moral whistleblowing in organizations. Journal of Business Ethics, 146(3), 669-683.

Welsh, D. T., Baer, M. D., Sessions, H., & Garud, N. (2020). Motivated to disengage: The ethical consequences of goal commitment and moral disengagement in goal setting. Journal of Organizational Behavior, 41(7), 663-677.

You, D., & Bebeau, M. J. (2013). The independence of James Rest's components of morality: evidence from a professional ethics curriculum study. Ethics and Education, 8(3), 202-216.

CHAPTER 7

Summary in Dutch

7.1 Achtergrond van het promotieonderzoek

Ofschoon er al veel bekend is over de effecten van implementatie van de mastergeschoolde physician assistants en verpleegkundig specialisten in de Nederlandse gezondheidszorg, laat de situatie wat er gebeurt wanneer een moreel dilemma zou aandienen in de spreekkamers van beide zelfstandig bevoegde professionals, zich alleen nog maar raden. Met dit promotieonderzoek is een aanzet gedaan richting vervolgstudies die de fasen van het ethisch besluitvormingsproces onder deze professionals, en bij voorkeur al tijdens de opleiding, in kaart te brengen. Binnen de diverse uitgevoerde studies zijn antecedenten van (on)ethisch gedrag onder physician assistants en verpleegkundig specialisten onderzocht. Onder het motto van "meten is weten" heb ik in dit promotieonderzoek vragenlijsten landelijk uitgezet met als doel enerzijds het (on)ethisch gedrag te onderzoeken, maar anderzijds de gebruikte en ontwikkelde vragenlijsten te valideren. Dat is nooit eerder op deze wijze gedaan, noch in Nederland, noch wereldwijd. De vragenlijsten zijn voor een deel vertaald vanuit het Engels naar het Nederlands, maar ook een aantal werd zelf ontwikkeld. De ingezette vragenlijsten zijn alle indicatoren voor de verschillen constructen binnen de gehanteerde theorieën. De bestudeerde constructen zijn deels ontleend aan: 1) het Vier Componenten Model van Moreel Gedrag (FCM) van James Rest (Rest, Thoma, & Bebeau, 1999), 2) de Morele ontkoppelingstheorie (MD) van Albert Bandura (Bandura, 1999) en 3) de eigen ingeschatte beheersing van gedrag (PBC) vanuit de Theorie van Gepland Gedrag (Ajzen, 1985).

Het FCM bestaat uit vier componenten, namelijk: 1) morele sensitiviteit, 2) morele redenatie, 3) morele motivatie en 4) morele karakter. Bij morele sensitiviteit gaat het om de gevoeligheid dat iemand al dan niet heeft ten aanzien van een moreel geladen situatie. Met andere woorden, of het individu het moreel conflict herkent. Bij morele redenatie, het tweede component van het FCM, staat het niveau van redenatie centraal. Dat wil zeggen: kan het individu afwegingen en inschattingen maken over de verschillende handelingsopties op het moment dat een moreel dilemma zich aandient? De morele motivatie als derde component betreft hoofdzakelijk de wil om het moreel juiste te doen. Bij de laatste component het morele karakter gaat het om de vraag of het individu ook daadwerkelijk morele dapperheid bezit om de beredeneerde en gemotiveerde handelingsopties op basis van het geconstateerde morele dilemma weet om te zetten in daadwerkelijk handelen. Dit laatste hangt in die zin nauw samen met de persoonlijkheid van het desbetreffende individu.

Het handelen kan echter ook onethisch zijn en zelfs afwijken van de eigen morele standaard door allerlei oorzaken zoals externe druk. In situaties wanneer hier sprake van is kan het individu (on)bewust morele ontkoppelingsmechanismen inzetten om ondanks het onethisch handelen toch met zichzelf in het 'reine te blijven'. Hierbij valt te denken aan bijvoorbeeld het goed praten om antibiotica zonder indicatie toch voor te schrijven, want anders bestelt de veeleisende patient in kwestie het toch wel illegaal op een buitenlandse online webshop.

Bij PBC gaat het om een construct dat is ontleend aan de Theorie van Gepland Gedrag en is het de mate van eigen ingeschatte zelf-effectiviteit om het voorgenomen gedrag (de intentie) ook daadwerkelijk om te zetten in gedrag. Ten behoeve van (on)ethisch gedrag zijn in dit promotienderzoek twee nieuwe constructen geïntroduceerd, namelijk die van "Reporting Reprehensible Conduct" en dat van "Yielding to Pressure".

In deze Nederlandse samenvatting worden de belangrijkste bevindingen van de studies vermeld.

7.2 Samenvatting van de belangrijkste bevindingen

In **hoofdstuk 2** worden de resultaten van een valideringsstudie gerapporteerd. Met het oorspronkelijke plan om een contextspecifieke versie van de Moral Sensitivity Questionnaire (MSQ) te valideren bleken de bevindingen echter totaal anders te zijn dan die aan het begin van de studie werden verwacht. Terwijl Lützén et al. met hun MSQ zes dimensies van morele sensitiviteit (MS) meetten, werden in dit promotieonderzoek via zowel exploratieve factor analyse als confirmatieve factor analyse geen aanknopingspunten gevonden om deze dimensies te handhaven. In ieder geval niet voor het instrument dat wij afnamen onder Nederlandse physician assistants en verpleegkundig specialisten. Echter, in plaats daarvan construeerden we twee nieuwe schalen uit de verkregen data die twee soorten attitudes meten, namelijk die van een moreel deliberatieve houding (MSQ-DELIB) en die van een paternalistische houding (MSQ-PATER). Beide schalen vertonen een goede construct validiteit en de juiste mean-inter-item-correlatiecoëfficiënten als waarborg voor voldoende homogeniteit van de schalen. Terwijl we vooraf verwachtten een aangepaste MSQ te valideren als een indicator voor het FCM construct van MS, hebben we nu twee afzonderlijke indicatoren die proxies kunnen zijn voor het aangeven van moreel (on)gevoelige houdingen. Hiervoor hebben we een vervolgstudie uitgevoerd om de voorspellende waarde van beide schalen te beoordelen. De resultaten van die studie worden gerapporteerd in hoofdstuk 5

In **hoofdstuk 3** hebben we het effect van persoonlijkheid op morele redeneren (MR) onderzocht, en getoetst in hoeverre die verklaard wordt door morele ontkoppeling (MO). Voor het meten van MR hebben we de Nederlandse versie van de Defining Issues Test gebruikt. Ten aanzien van persoonlijkheidskenmerken werd de alom bekende Big Five Inventory afgenomen en omgezet naar de twee meta persoonlijkheidskenmerken Stabiliteit en Plasticiteit. De meta-persoonlijkheidskenmerk Stabiliteit weerspiegelt de mate waarin een individu consistent is in motivatie en sociale interacties en stemmingsstoringen vermijdt, terwijl Plasticiteit de mate weergeeft waarin een persoon actief op zoek is naar nieuwe en lonende ervaringen, of op een flexibele manier nieuwe dingen verkent en ermee omgaat, zowel intellectueel als sociaal. De houdbaarheid van deze twee meta-persoonlijkheidskenmerken werd aangetoond met confirmatieve factor analyse. Verder werd met behulp van een pad-analyse binnen een structureel statistisch model aangetoond dat het meta persoonlijkheidskenmerk Stabiliteit inderdaad een significante voorspeller bleek van post-conventioneel morele redenatie en blijkt eveneens dat morele ontkoppeling op die relatie een medierend effect heeft. Met andere woorden, individuen met een stabiele persoonlijkheid laten zich in hun morele argumentatie leiden door rechten, waarden, plichten of principes die universeel toepasbaar zijn en hoeven hierin noodzakelijkerwijs niet moreel te ontkoppelen. Met deze studie is het meta-persoonlijkheidskernmerk Stabiliteit geïntroduceerd in het wetenschappelijke gebied van medisch ethisch besluitvormingsonderzoek.

In **hoofdstuk 4** hebben we het nieuw geïntroduceerde concept van Ethics Advocacy getest. Ethics advocacy (EA) verwijst naar het belang dat individuen hechten aan ethiek binnen de specifieke context van gezondheidszorg. Meer specifiek gaat EA over de mate waarin zorgprofessionals het belangrijk vinden om aandacht te besteden aan de ethische aspecten van de zorg binnen hun organisatie en tijdens patiëntencontact. In dit onderzoek hebben we onderzocht of het rapporteren van moreel verwerpelijk gedrag van een collega (reporting reprehensible conduct) verklaard kan worden door de mate van EA. Uit de studie blijkt dat hier alleen sprake van is op het moment dat het individu bij zichzelf een hoge mate van gedragscontrole (BCPH) ervaart. Deze bevinding draagt bij aan het inzicht dat het ethische besluitvormingsproces niet alleen een rationele exercitie is, maar dat ook persoonlijke gevoelens en percepties een verklarende rol kunnen spelen in het ontstaan van (on)ethische keuzes.

In **hoofdstuk 5** werd een indicator van (on)ethisch gedrag geïntroduceerd middels het construct van zwichten voor druk ("Yielding to Pressure"). Het voornaamste doel was het valideren van de voorspellende waarden van respectievelijk de MSQ-DELIB- en MSQ-PATER-schalen richting het zwichten voor druk, waarbij dit laatste een proxy is voor (on)ethisch handelen. De belangrijkste bevinding in deze studie is dat een moreel deliberatieve houding invloed heeft op de mate waarin zorgverleners toegeven aan druk uitgevoerd door patiënten. De? richting van die invloed hing echter af van het specifieke gedragsscenario dat hen in het onderzoek werd n voorgelegd. In een scenario waarin het ging om een direct professional-patiënt interactie, verhoogde morele deliberatie de mate waarin men zwichtte voor druk. In een scenario waarin het ging om het handelen op druk uitgeoefend door collega's inzake het moeten handelen op een patiënten-probleem, verlaagde morele deliberatie juist de mate waarin men zwichtte voor druk. Een verklaring voor deze post-hoc bevinding zou in een vervolgstudie moeten worden onderzocht. Echter, met de MSQ-DELIB is er een nieuwe indicator van morele sensitiviteit c.q. moreel bewustzijn toegevoegd aan het internationale aanbod van literatuur over bruikbare indicatoren binnen het FCM. Het hebben van een ogenschijnlijk morele eigenschap, namelijk in sommige gevallen de druk van de patiënt, kan juist ook leiden tot het overtreden van de morele regels.

7.3 Conclusie

De uitkomsten van de diverse studies die ik heb verricht in het kader van mijn promotieonderzoek hebben, zoals ik deze heb samengevat in Chapter 6, duidelijk praktische implicaties. De uitkomsten kunnen tot op zekere hoogte invloed hebben op de opleidingsinhouden van zowel de Master Physician Assistant alsook op die van de Master Advanced Nursing Practice. Op zijn minst, en in alle bescheidenheid, kan worden gezegd dat er een begin is gemaakt met het onderzoeken van delen van het ethische besluitvormingsproces onder PA's en NP's. Verdere evaluaties en discussies over deze belangrijke en niet te verwaarlozen onderwerpen in het gezondheidsonderwijs zijn in mijn beleving al een zeer belangrijke verdienste van dit promotieonderzoek. In zijn algemeenheid mag worden geconcludeerd dat ik de gestelde onderzoeksdoelen die de basis vormden van dit huidige promotieonderzoek heb geadresseerd. Daarbij heb ik alle instrumenten kunnen identificeren als valide indicatoren van de constructen voor "morele gevoeligheid", "moreel redeneren", "morele motivatie", "moreel karakter en implementatie", naast ook die voor "morele ontkoppeling "en" waargenomen gedragscontrole gericht op het voorkomen van

schade ". Daarnaast zijn in dit promotieonderzoek vier vignetten ontwikkeld om verschillende soorten van (on) ethische keuzes te beoordelen, namelijk die van: "het rapporteren van laakbaar gedrag" en "toegeven aan druk".

REFERENCES

Ajzen, I. (1985). From Intentions to Actions: A Theory of Planned Behavior. In J. Kuhl, & J. Beckmann (Eds.), (pp. 11-39) Springer Berlin Heidelberg. Retrieved from http://dx.doi.org/10.1007/978-3-642-69746-3_2

Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. Personality and Social Psychology Review, 3(3), 193-209.

Rest, J. R., Thoma, S. J., & Bebeau, M. J. (1999). Postconventional moral thinking: A neo-Kohlbergian approach Psychology Press.

APPENDICES

ACKNOWLEDGEMENTS

André Oosterhof en Albert Verstallen, jullie beiden moeten vooraan in dit dankwoord. Met mijn aanstelling bij de opleiding Master Physician Assistant (MPA) in 2009 begon ook een beoogd promotietraject in het lectoraat Transparante Zorgverlening dat onder leiding stond van Prof. Dr. Cees van der Schans. Ofschoon ik deze kans met beide handen aangreep is het door allerlei oorzaken destijds niet tot het beoogde onderzoek gekomen. Het werken als docent in het hoger onderwijs èn het begeleiden van het ziekteproces en overlijden van mijn vader in 2011 dwongen tot keuzes die steeds ten nadele van een promotieonderzoek uitvielen. Desondanks gaven jullie mij in 2012 een tweede kans en werd ik in contact gebracht met de inspirator van voorliggend proefschrift. Zonder jouw telefoontje, André, was vermoedelijk het proefschrift zoals het nu voorligt, niet tot stand gekomen. Zonder jouw begeleiding, Albert, in het papierwerk om aanspraak te kunnen maken op het 'Promotieregelement' was het allemaal ook nog lastiger geworden. Ik ben daarvoor blijvend dankbaar!

Berry Middel, ja die *Inspirator* dat ben jij. Op het juiste moment kwam jij als de juiste persoon binnenwandelen in mijn leven en stelde mij de vraag: Wat wil je nu eigenlijk zelf? Ik wilde mijn promotieonderzoek omzetten naar die met een nieuwe vraagstelling dat ook zou bijdragen aan de doorontwikkeling van het beroep physician assistant. Ik had, zoals jij dat pakkend duidde een 'theoretisch universum' nodig voor de concepten**,** omdat ik vanuit mijn fanatisme echt 'alles in samenhang met alles' wilde onderzoeken aangaande het beroep Physician Assistant. "Als je zo door blijft gaan zal je blijven zwemmen zonder de oever te bereiken". Wat al snel duidelijk werd in de recherche naar relevant onderzoek voor het beroep PA was dat er nauwelijks onderzoek was gedaan naar hoe PA's zich zouden gedragen op het moment dat zich een moreel dilemma zou voordoen. Vanuit deze bevinding belandden we beide in een voor ons beiden *terra incognita* van (zorg)ethiek en *moral psychology*. Vanaf dat moment ontstond een leermeester-gezel relatie tussen jou als, zoals ze dat aan Duitse universiteiten noemen, 'Doktor Vater' en mij als jonge onderzoeker die alles graag wilde onderzoeken van wat los en vast zat. Jouw sturing, scherp analytisch doorvragen en relativeren, resulteerden tamelijk snel in een promotieonderzoeksvoorstel waarbij naar aanleiding van een paar narratieve literatuureviews al snel duidelijk werd dat het beoogd promotieonderzoek zich zou gaan voltrekken in de wereld van 'meten is pas weten als de interne validiteit van het onderzoek goed is '. Jij bleef constant hameren

op voortgang op de momenten dat ik weer een life-event had te verduren en onttrok je ook uit de formele begeleidersrol op het moment dat jij dacht dat het voor mij beter zou zijn. En hier ligt het dan, het proefschrift waarvan jij mij de basis van de psychometrische analyses, schaalconstructie en keuzes uit statistische methoden in dit moeizaam traject hebt aangereikt. Was het dan allemaal zo moeilijk? Nee, maar het leven heeft me danig op de proef gesteld dat jouw troostende, bij tijden vaderlijke woorden mij er menigmaal door heen hebben gesleept. Dank voor alles wat je voor mij hebt gedaan en (nog steeds) betekent !

Gerard Jansen, jouw bijdrage aan de totstandkoming van dit proefschrift loopt op vele fronten - ook in tijd - gelijk op met die van Berry. Van onschatbare waarde, in jouw geval niet alleen als formeel co-promotor, maar evenzo belangrijk óók als menselijk begeleider ! Ook jij bood met regelmaat een luisterend oor in mijn worstelingen rondom het onderzoek, maar zeker ook van die in de privé- en werksfeer. In de beginjaren van het promotieonderzoek waren wij het met zijn drieën (jij, Berry en ik) die de gebruikte instrumenten vertaalden, aanpasten aan de context van de Nederlandse gezondheidszorg en zelfs een paar ontwikkelden, en stonden wij voor mijn gevoel 'schouder-aan-schouder' met elkaar aan de voorkant van dit traject en de dataverzameling. Op de rake momenten legde jij in de discussies het gewicht in de schaal als een doorwinterde onderzoeker met iedere keer maar weer mij dwingend naar het groter goed: "Luppo, wat is de praktische relevantie van je bevindingen?". Deze vraag zal ik zeker meenemen in het vervolg van mijn carrière als onderzoekend professional. Je kunt immers iets onderzoeken om iets te onderzoeken, maar een belangrijke vraag is de praktische relevantie, wat draagt het bij aan de bestaande inzichten? "Probeer het niet altijd statistisch te duiden, ook al doe je dat goed!".

Petrie Roodbol, nadat Berry, Gerard en ik een promotie-onderzoeksvoorstel in de steigers hadden staan kwam jij in beeld. Vanuit de zijlijn (her)kende ik jou als dé Taakherschikkings-goeroe en leek mijn promotieonderzoek gerelateerd aan het beroep van Physician Assistant bij jou als promotor juist ondergebracht. Ook jij hebt uiteraard een prominente rol gehad in de totstandkoming van dit proefschrift. Met alle denkbare positieve connotaties heb jij als "people"-manager tijdens dit traject op de juiste momenten knopen doorgehakt. Hierin heb je constant oog gehouden voor mijn positie die ik heb moeten bevechten vanuit mijn persoonlijke kracht om niet op te geven. Ook al waren er een aantal momenten waarop die keuze voor mij tamelijk dichtbij hebben gelegen. "Kop op joh", dat waren dan de opstekers die jij in mijn

beleving als blijk van vertrouwen in mijn kunnen via de Whatsapp mij deed toekomen. Met de inclusie van verpleegkundig specialisten (VS'en) om bij te samplen was achteraf bezien misschien wel 'het cirkeltje rond'. Jouw academische carrière nam een vlucht na jouw proefschrift waarbij je onderzoek hebt gedaan naar de inzetbaarheid van nurse practitioners (de 'voorlopers' van de hedendaagse VS'en) en nu bij dit laatste proefschrift zijn ook weer VS'en tijdens het onderzoek geïncludeerd. Hebben we dan nu een helder beeld op hoe PA's en VS'en handelen op het moment dat een moreel dilemma zich aandient? Volmondig nee, maar we hebben wel de nodige instrumenten getest en gevalideerd en zicht gekregen op antecedenten van ethische besluitvorming onder PA's en VS'en. Iets wat mij betreft een springplank zal bieden voor toekomstige onderzoeken. Ik ben jou zeer erkentelijk voor het aanhoudend vertrouwen dat ik dit proefschrift tot een goed eind zou brengen. Dank, dank, dank!

Laetitia Mulder, wij maakten voor het allereerst kennis toen ik samen met Prof. Dr. Frank Hindriks, destijds tweede promotor verbonden aan dit traject, bij jou op bezoek kwam om de plausibiliteit van het onderzoek model ook vanuit de moraal-psychologische discipline te toetsen. Ik was voornemens alle paden te toetsen, jij gaf toen al aan dat dit veel te ambitieus was (en kreeg achteraf ook gelijk!). Na het onvoorzien vertrek van Frank als tweede promotor had ik sterk de behoefte aan een 'theoretisch' begeleider die mij op het kruisvlak van de domeinen van de ethiek en moraal psychologie op z'n minst kon bevragen en uitdagen. Op suggestie werd je door Petrie Roodbol gevraagd om toe te treden tot de begeleidingscommissie. In alle open- en eerlijkheid: dit ging in aanvang niet zonder slag of stoot. Ik als 'toegepaste onderzoeker' ging vaak prat op de statistisch significante bevindingen, jij trok mij keihard terug naar de voor jou vanzelfsprekende, wetenschappelijke houding om vanuit theoretisch onderbouwde hypotheses de data te benaderen. In de beginperiode waarbij ik menige conceptversies van jou terugkreeg die figuurlijk van mijn scherm spatten door het rood van de opmerkingen, heb ik regelmatig getwijfeld of ik überhaupt aan jouw standaard zou kunnen voldoen. Echter, bij het laatste manuscript meende ik zelfs complimenten te lezen en neem daarin de vrijheid te mogen opmaken dat ik daarin dus een ontwikkeling heb doorgemaakt dat op z'n minst ook jouw waardering heeft gekregen. Dank voor het begeleiden van mij als niet-standaard promovendus.

Graag wil ik de beoordelingscommissie, bestaande uit: **Prof. dr. P.L.P. Brand**, **Prof. dr. P.U. Dijkstra** en **Prof. dr. A.A. De Bont** bedanken voor de tijd en moeite die werd opgebracht voor het beoordelen van mijn proefschrift.

Beste Arwin Nimis en Jan Peter Landsman, Op grond van het promotieonderzoeksoorstel en een samengestelde begeleidingscommissie werd mij in 2013 een tegemoetkoming vanuit het HG-promotiereglement toegekend en een jaar later ook nog eens de derde-dag-financiering RUG. Alsof de 'duvel er mee speelde' deed zich echter in 2014 de mogelijkheid voor om te solliciteren naar de functie van programma-manager voor de opleiding MPA. Sinds mijn benoeming tot aan de dag van vandaag heb ik daar nog geen seconde spijt van gehad, maar heeft het ook in deze jaren wel weer zodanig een wissel getrokken dat het belang van de opleiding op de voorgrond kwam te staan en het promotieonderzoek op momenten tergend langzaam verliep. Met het aflopen van de voornoemde financiering verschoof het kunnen werken aan de manuscripten en het nu voorliggend proefschrift logischerwijs naar de avonduren en vrije weekenden om het onderzoek toch te kunnen afronden. Jullie aanhoudend vragen naar de stand van zaken rondom mijn promotieonderzoek bleven stimuleren en ik wil jullie dan ook danken voor het blijvend vertrouwen (ook in mij als programma-manager), en minstens zo belangrijk niet hebben besloten 'het kind met het badwater weg te gooien'!

Collega's van de MSc Physician Assistant opleiding, jullie heb ik allemaal deelgenoot gemaakt van mijn ervaren strubbelingen in mijn promotieonderzoek en eenieder bood hiertoe op een eigen manier een luisterend oor. Op jullie vraag wat ik ga doen in de komende vakantie zal ik nu antwoorden: "misschien een artikel schrijven, maar hoofdzakelijk genieten van de liefde van mijn gezin en familie". Dank voor jullie support!

Collega's Landelijk Overleg Opleidingen MPA en opleiding MANP Hanzehogeschool Groningen, Een ruim aantal jaren geleden hebben jullie (Josephine Berkvens, Geert van den Brink, Daphne Cohen, Roos Nieweg, Rita van der Hem-Stokroos, Hans Springer en Irma van der Velden) je steen bijgedragen door instemming te geven tot het aanschrijven van al jullie alumni met het verzoek tot deelname aan mijn onderzoek. Hiervoor ben ik jullie zeer erkentelijk, omdat jullie daarmee de opening hebben gecreëerd tot de noodzakelijke dataverzameling.

Alumni MPA en MANP, wanneer jullie niet hadden gerespondeerd op mijn uitgezette vragenlijsten dan had dit onderzoek natuurlijk helemaal niet z'n weerslag gekregen in voorliggend proefschrift. Daar ben ik jullie dankbaar voor, want ergens moet het wel gedaan worden en de omvang van de vragenlijsten was gemiddeld genomen wel een 'klus' !

Studenten MPA, Daarnaast wil ik ook dank uitspreken richting de studenten MPA die destijds hebben meegedaan aan de 'feasability study' om de vragenlijsten eerst te 'proefdraaien' voordat we deze überhaupt landelijk konden uitzetten. Ook voor jullie gold dat jullie in al een drukke studieweek toch gehoor hebben gegeven aan het invullen van de set aan vragenlijsten.

International colleagues PA educators and researchers: Since 2009 it has been my pleasure to work with many of you. The relationships we formed crossed different roles, situations and circumstances. It is impossible to name everyone here, but a number of icons should be mentioned because in my humble opinion you dominate the international PA literature. All of you have been a true source of motivation for me to complete this project. It has been a privilege to learn from you and to work with you. Most prominent in my daily life is **Roderick S. Hooker**. I met you in San Diego and from that moment on, a certain mentorship came about naturally where you provided me with (un)solicited, though appreciated advice and guidance. In addition, **Richard Dehn**, thank you for appointing me as an adjunct professor in your PA program of the Northern Arizona University, you are an inspiring mentor as well. Finally other very importants friendships have developed with equally important people such as **Ruth Ballweg, Oren Berkowitz, Jim Cawley, David Kuhns, Tami Ritsema, Karen Roberts and Gomathi Sundar**. Thank you for accepting me as a part of the 'global PA movement'.

Ronald (Mitsuo) Kobayashi, Sehr geehrter Sensei, drei Jahre lang konnte ich erweitert von Dir über Judo lernen, aber sicherlich auch über die tieferen Schichten, die mit der Ausübung dieses besonderen Sports und vor allem über die Lebensweise verbunden sind. Die Art und Weise, wie sich unsere Lebenswege kreuzten, war genauso wunderbar wie die Art und Weise, wie wir uns trennten. Ich wusste nicht, dass Du im Sterben lagst, als wir noch damit beschäftigt waren, über WhatsApp miteinander zu kommunizieren, wie wir Deinen neue Dojo zu diesem Zeitpunkt außerhalb des Vereins lebensfähig machen könnten, weil Du zu Unrecht mit Schande entlassen geworden warst. Deiner weisen Wörte, die zweifellos tief in Deinem japanischen Erbe verwurzelt sind, geben mir immer noch regelmäßig Kraft: „Luppo, Positiv Denken". In den letzten Monaten vor Deinem plötzlichen Tod haben wir oft über Deinen geplanten Urlaub in Japan gesprochen. Du hast dich darauf gefreut deine Schulfreunde zusammen mit Deiner geliebten Margot zu treffen, und auch die Olympischen Spiele verfolgen zu können. Was bleibt, ist eine warme Erinnerung an dich als Mensch und das Streben

nach Jita-Kyoei: gegenseitiger Wohlstand für sich und andere. Deine Existenz hat wertvolle Freundschaften mit Oliver und Bernd geschaffen. Auch Du hast mir mentale Kraft geboten, implizit auch zu dieser Doktorarbeit fortzufahren. ありがとうございました

Vrienden, door dik en dun (letterlijk en figuurlijk). Het is in het leven belangrijk dat je naast je geliefden ook echte vrienden hebt. Bij echte vrienden heb je aan een paar woorden genoeg om te laten weten hoe het gevoel is. We kijken gezamenlijk terug op een groot deel van het leven en hebben allemaal onze beproevingen doorstaan en lief en leed gedeeld. Jullie hebben ongetwijfeld ook in mijn hang naar het steeds 'blijven leren' afgevraagd of het ooit nog eens stopt met dat geleer van Luppo. Mogelijk is het behalen van mijn doctoraat voor nu wel eerst even het einde van het officiële leren, maar natuurlijk wil ik ook van jullie als kameraden life-long blijven leren. Als vrienden hebben we vele raakvlakken, maar ook verschillen. Juist dat houdt onze vriendschappen waardevol en wat mij betreft leerzaam. Beste Arash, Bert, Kees, Koos, Machiel, Marcel, e.a., dank dat jullie mijn geraas over mijn werk en onderzoek altijd (ogenschijnlijk) voor lief hebben genomen. Na de corona moeten we echt weer eens gezellig met onze families bij elkaar komen en toosten op het leven! Two other friends who inspired me to continue my doctorate work are: dr. Andreas Meißner and dr. mult. Charalampos Mamoulakis, respectively: Danke Dir and ευχαριστώ ! Let the three of us meet somewhere soon between here and Heraklion. Dear Oliver, my dear judo friend, thanks for linguistically reviewing parts of this thesis. Hopefully we can restart our judo somewhere in the near future.

ถึงครอบครัวที่เมืองไทยการที่ทุกคนเรียนจบระดับสูงและมีหน้าที่การงานที่ดีเป็นแรงกระตุ้นให้ผมตลอดมาการที่ผมเรียนจบปริญญาเอกถึงจะใช้เวลานานไปหน่อยแต่ผมก็เรียนจบแล้วตอนนี้และหวังว่าพวกเราจะได้เจอกันในเร็ว ๆ นี้

Lieve mamma en Feikje, hier is het dan, mijn proefschrift. Dit is waar ik dus al die tijd mee bezig was. Het afsluiten van deze periode geeft absoluut een lichtpuntje in mijn leven, maar wordt tegelijkertijd ook volledig overschaduwd door het immense verdriet dat wij in gezamenlijkheid delen door het veel te vroeg overlijden van een zorgzame echtgenoot, pappa, schoonvader en opa Wubbe Kuilman in 2011, en het recentelijk totaal onverwacht overlijden van Benjamin in november 2019. In Benjamin houden wij de herinnering aan een geliefde zoon, broertje, zwager en oom, maar brengt het ons ook tegelijk tot het besef dat het leven kwetsbaar is en we juist daarom door alle verdriet heen toch ook moeten proberen te genieten van iedere dag die ons gegeven wordt.

Lieve Ning, Aímee en Sim, zonder jullie zou ik niet weten hoe ik de zware beproevingen van het leven had moeten doorstaan in de afgelopen 20 jaar. Jullie onvoorwaardelijk liefde heeft mij continue gesteund en de kracht gegeven om door te gaan. Helaas bleef het niet alleen bij het verlies van mijn vader (schoonvader en opa Wubbe) en broertje (oom en zwager Benjamin), maar hebben we ook het verdriet moeten dragen van het plotseling overlijden van (schoon)vader en opa Panthong Sridan. Het pracht gezin waar ik onderdeel van mag zijn is een geschenk van onschatbare waarde en maakt mij bijzonder trots. Ning jij bent mijn rots in de branding en Aímee en Sim, jullie zijn mijn bakens van licht. Dank dat jullie mijn sikkeneurige momenten (als er weer iets niet lekker liep in het onderzoek) hebben genegeerd of op z'n minst hebben getolereerd. Laten we nu met elkaar en al onze familie, vrienden en kennissen nog meer genieten van wat het leven ook aan mooie dingen heeft te bieden. Ik hou van jullie!

AUTHOR'S BI(BLI)OGRAPHY

Biosketch

Luppo Kuilman is born and raised in the province Groningen and moved to the provincial capital Groningen where he studied for his bachelor's in nursing at the Hanze University of Applied Sciences, Groningen. After completing nursing school, he was employed at the Asylum Seekers Medical Office (MOA-GGD) and worked there until 2005.

In September 2005 he enrolled for the Master Physician Assistant Program of the Inholland Graduate School in Amsterdam. As a Physician Assistant student he was hired at the department of Urology of the VU Free University Medical Center in Amsterdam and was precepted by Professor Dr. Eric Meuleman. After graduating, he practiced urology at the Academic Medical Center in Amsterdam for a year before he left clinical practice to become a faculty member for the Master Physician Assistant (MPA) program of the Hanze University of Applied Sciences, Groningen in April 2009. Since 2009, Luppo has poured himself into teaching clinical medicine, statistics, and professional practice. Also Luppo mentored students during the clinical portions of the program and supervises Masters theses. In 2014, he was appointed Program Manager for the Hanze University program, which makes him the functional chair of the Master Physician Assistant program.

Besides his administrative role, Luppo has pursued research interests regarding the globalization of the PA profession. His work is recognized at the international level and he is invited to present his work at international meetings.

As an educational consultant he gives keynote sessions on the development and implementation of the Dutch model for training physician assistants. From 2016 Luppo holds the position of adjunct professor at Northern Arizona University in the Department of Physician Assistant Studies, College of Health and Human Services, Phoenix BMC, Arizona, USA.

Publications

Mamoulakis, C., Wijkstra, H., Kuilman, L., Visser, M., Laguna, M. P., De Reijke, T., & De La Rosette, J. (2009). 626 Does neoadjuvant Sorafenib treatment affect Microvessel Density Count in prostate cancer? European Urology Supplements, 8(4), 277.

Kuilman, L. (2010). Invited book review: RS Hooker, JF Cawley, DP Asprey, Physician Assistant: Policy and Practice, 3rd edn. Philadelphia, PA: FA Davis, 2010. 668 pp. US $59.95. ISBN-13: 9780803618121; ISBN-10: 0803618123. Health Education Journal, 69(3), 362-364.

Hooker, R. S., & Kuilman, L. (2011). Physician assistant education: five countries. Journal of Physician Assistant Education (Physician Assistant Education Association), 22(1)

Merkle, F., Ritsema, T. S., Bauer, S., & Kuilman, L. (2011). The physician assistant: shifting the paradigm of European medical practice? HSR Proceedings in Intensive Care & Cardiovascular Anesthesia, 3(4), 255.

Kuilman, L., Nieweg, R. M. B., van der Schans, C.,P., Strijbos, J. H., & Hooker, R. S. (2012). Are Dutch patients willing to be seen by a physician assistant instead of a medical doctor? Human Resources for Health, 10(1), 28.

Kuilman, L., Sundar, G., & Cherian, K. M. (2012). Physician assistant education in India. Journal of Physician Assistant Education (Physician Assistant Education Association), 23(3)

Kuilman, L. & Wiwanitkit, V. (2012). Letter to The Editor: Introducing Physician Assistants to Thailand's Rural Health. The Malaysian Journal of Medical Sciences: MJMS, 19(2), 100.

Kuilman, L., Matthews, C., & Dierks, M. (2013). Physician assistant education in Germany. The Journal of Physician Assistant Education: The Official Journal of the Physician Assistant Education Association, 24(2), 38-41.

Kuilman, L. (2014). Commentaries on health services research: In Germany a PA is not always a physician assistant. Journal of the American Academy of PAs, 27(1), 53-54.

Kuilman, L., & Sundar, G. (2015). Tightening up the nomenclature for non-physician clinicians: why not call all of them physician assistants? Global Health: Science and Practice, 3(1), 144-145.

Hooker, R. S., Kuilman, L., & Everett, C. M. (2015). Physician assistant job satisfaction: a narrative review of empirical research. The Journal of Physician Assistant Education, 26(4), 176-186.

Kuilman, L. (2016). Turbulent affairs in PA and NP collaboration: a global phenomenon? Jaapa-Journal of the American Academy of Physician Assistants, 29(10)

Kuilman, L. (2017). Commentaries on health services research: Urology management by PAs and NPs. Journal of the American Academy of PAs, 30(12), 52-54.

Meijer, K., & Kuilman, L. (2017). Patient satisfaction with PAs in the Netherlands. Journal of the American Academy of PAs, 30(5), 1-6.

Kuhns, D., & Kuilman, L. (2017). Chapter 3: International Development of the Physician Assistant profession (p. 25-36). In: Ballweg, R. (2017). Physician Assistant: A Guide to Clinical Practice E-Book. Elsevier Health Sciences.

Kuilman, L., Jansen, G. J., Middel, B., Mulder, L. B., & Roodbol, P. F. (2019). Moral reasoning explained by personality traits and moral disengagement: a study among Dutch nurse practitioners and physician assistants. Journal of Advanced Nursing, 75(6), 1252-1262.

Kuilman, L., Jansen, G. J., Mulder, L. B., Middel, B., & Roodbol, P. F. (2020). Re-assessing the validity of the Moral Sensitivity Questionnaire (MSQ): Two new scales for moral deliberation and paternalism. Journal of Evaluation in Clinical Practice, 26(2), 659-669.

Kuilman, L., Jansen, G., Mulder, L. B., & Roodbol, P. (2020). Facilitating and motivating factors for reporting reprehensible conduct in care: A study among nurse practitioners and physician assistants in the Netherlands. Journal of Evaluation in Clinical Practice,

GLOSSARY

AIC:	Akaike information criterion
BCPH:	Behavioral Control targeted at Preventing Harm
BFI:	BIG Five Inventory
CFA:	confirmatory factor analysis
CFI:	comparative fit index
CI:	confidence interval
DIT:	Defining Issues Test
EA(S):	Ethics Advocacy (Scale)
EFA:	exploratory factor analysis
FCM:	Four Component Model of Moral Behavior
GFI:	goodness-of-fit index
H[number]:	hypothesis
LLCI:	Lower Limit Confidence Interval
MAP:	Velicer's Minimum Average Partial test
MD(S):	Moral Disengagement (Scale)
MD:	medical doctor
MIIC:	mean inter-item correlation coefficient
MIM:	Moral Identity Measure
MSQ:	Moral Sensitivity Questionnaire
MSQ-DELIB:	moral deliberation attitude
MSQ-PATER:	paternalist attitude
MST:	moral sensitivity test, predecessor of the moral sensitivity questionnaire
NP:	nurse practitioner, named as 'verpleegkundig specialist' (nursing specialist),
PA:	physician assistant
RMSEA:	root mean square error of approximation
RRC:	Reporting Reprehensible Conduct
SDM:	shared decision-making
SEM:	structural equation modelling
SRMR:	standardized root mean square residual
TLI:	Tucker- Lewis Index
ULCI:	Uper Limit Confidence Interval
VIF:	variance inflation factor

RECENT THESES RESEARCH INSTITUTE SHARE

This thesis is published within the **Research Institute SHARE** (Science in Healthy Ageing and healthcaRE) of the University Medical Center Groningen / University of Groningen.

Further information regarding the institute and its research can be obtained from our internet site: http://www.share.umcg.nl/

More recent theses can be found in the list below.
(supervisors are between brackets)

2021

Brink MJ van den

Management of heavy menstrual bleeding.
(prof MY berger, prof MY Bongers, dr JH Dekker)

Brouwer MA

At the boundaries of life; suffering and decision-making in children with life-threatening conditions (1-12 years).
(prof AAE Verhagen, dr E Maevkelberghe)

Beune IM

Standardization in fetal growth restriction; progression by consensus
(prof JJ Erwich, dr SJ Gordijn, dr JW Ganzevoort)

Keizer MNJ

Neuromuscular control of knee laxity after an anterior cruciate ligament reconstruction
(prof E Otten, dr JM Hijmans, dr RW Brouwer)

Habtewold TD

Data-driven subphenotypic dissection of the clinical heterogeneity of schizophrenia spectrum disorders.
(prof HM Boezen, prof R Bruggeman, dr BZ Alizadeh, dr EJ Liemburg)

Ferdiana A

Quality of life, work, and social participation among individuals with spinal cord injury
(prof U Bültmann, prof JJL van der Klink, prof MWM Post)

Tuvdenjorj A

Economic evaluation of tobacco control in Asia; dynamic population health impact assessment in Mongolia.
(prof E Buskens, prof TL Feenstra)

Nanninga CS

Home & place making after stroke; exploring the gap between rehabilitation and living environment.
(prof K Postema, prof LB Meijering, dr AT Lettinga, dr MC Schönherr)
06.01.2021 EXPAND

2020

Wassink-Vossen S

Physical activity and functional recovery in late-life depression.
(prof RC Oude Voshaar, dr P Naarding, dr R Collard)

Hovenkamp-Hermelink A

The long-term course of anxiety disorders; an epidemiological perspective.
(prof RA Schoevers, dr H Riese, dr B Jeronimus)

Moazzen S

Nutrients and diet quality in gastrointestinal cancers.
(prof GH de Bock, dr BZ Alizadeh)

Poonsiri J

Exploring cycling and sports in people with a lower limb amputation: prosthetic aspects
(prof JHB Geertzen, prof PU Dijkstra, prof R Dekker, dr JM Hijmans)

Rausch CP

Geriatric syndromes prevalence: associated factors and outcomes.
(prof U Bültmann, prof SEJA de Rooij, prof L Laflamme, dr J Möller)

Shahabeddin Parizi A

Self-reported health status after solid-organ transplantation.
(prof PFM Krabbe, prof SJL Bakker, prof E Buskens, dr KM Vermeulen)

Vervoort D

Adaptability of gait and balance across the adult lifespan.
(dr CJC Lamoth, prof T Hortobagyi, dr N Vuillerme, dr AR den Otter)

Munck L de

Breast cancer: screening, stage and outcome; studies based on the Netherlands Cancer Registry.
(prof GH de Bock, prof S Siesling)

Wijnen A

Rehabilitation policies following total hip arthroplasty; across borders.
(prof SK Bulstra, prof D Lazovic, dr M Stevens)

Spinder N

Maternal occupational exposure and congenital anomalies.
(prof HM Boezen, prof H Kromhout, dr HEK de Walle, dr JEH van Kammen-Bergman)

For earlier theses visit our website


Research Institute
SHARE