The Influence of Supervisors' Behaviour on Residents Professional Values and Behaviour: The Perspective of Residents

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Abstract

Reports of unprofessional behaviour among physicians had raised concerns about the impact of this behaviour on patient care and residents' professional development. While much attention is paid to the teaching of competencies in medical education, less attention is given to the formation of professional values and behaviours, which are important to the delivery of high-quality care. This study aimed to investigate the residents´ perspective on how supervisors´ behaviour influences residents, with the research question: 'How does supervisors' behaviour influence the professional values and behaviour of residents?' Exploring this influence contributed to knowledge about the origins of residents' behaviour and values, and how supervisors´ behaviour affects residents´ professional values and behaviours in work. This research used an exploratory approach involving semi-structured interviews including a card-sorting task. Eleven participants were selected from Deventer Ziekenhuis. Data analysis consisted of creating frequency tables of values and analysing interviews using thematic analysis. The results showed that supervisors' behaviour influenced residents' professional behaviour and values, with a greater impact on behaviour comparing values. Residents experienced dissonance when supervisors' behaviour led them to change their own behaviour in conflict with their own professional values. It also revealed negative consequences of this dissonance and influencing external factors. Additionally, the results highlighted which professional values residents consider important in their work. This study contributes to both scientific literature and practice by providing insights into the influence of supervisors through the introduction of a taxonomy and enhancing the understanding of this influence. Based on these findings, it is recommended that medical training programmes place greater emphasis on training supervisors in role model behaviour and on creating awareness of the influence of the behaviour of supervisors. Additionally, it is recommended to implement training programmes focused on the development of professional values and professional behaviour. Further research should investigate the long-term effects of supervisors' influence on the professional development of residents and analyse how characteristics of both residents and supervisors affect this dynamic.

Keywords: Professional behaviour, professional values, residents, and supervisors

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1. Introduction

In recent years, there have been several reports on the unprofessional behaviour of physicians (Barnhoorn et al., 2022; Medisch Contact, 2023). These behaviours can negatively impact patients and the quality of healthcare, including effects on the patient-physician relationship and patient safety (Barnhoorn et al., 2018). Research showed a clear association between unprofessional behaviour in postgraduate medical education and unprofessional behaviour in later practice (Papadakis et al., 2008). It is important to counter such behaviour in future physicians to improve the quality of patient care (Barnhoorn, 2022). Therefore, it is important to understand what factors influence professional behaviour of physicians.

Professional values are an important predictor of professional behaviour, as they guide behaviour and influence how individuals judge their own and others' behaviour. This makes values essential for understanding professional behaviour and how individuals interpret and manage behaviour they observe (Seebregtst, 2006; Shahriari et al., 2013). Professional values and behaviours together form the foundation for physicians' practices and are important for delivering high-quality care and improving patient outcomes (Cruess et al., 2014; Ibarra, 1999, Molinera & Pereira, 2013; Monrouxe, 2009; Monrouxe et al., 2017; Scholtens et al., 2023; Slay & Smith, 2010). However, in current medical education, there is a strong emphasis on learning competencies, but there is less focus on the development of professional values and behaviours.

The residency period, during which a physician in training to become a specialist (resident) works under supervision, is a critical phase in professional development (Cruess et al., 2015). Supervisors are important in this period, not only as supervisors during formal training sessions but also as mentors and role models in daily practice (FMS, n.d.). Although several studies have already been conducted on the behaviour of physicians, research on the influence of supervisors' behaviour on residents' values and behaviour is lacking (Barnhoorn et al., 2019; Cruess et al., 2014). Research into these perceptions could contribute to a better understanding of professional behaviour and values within medical education and may help to reduce unprofessional behaviour.

Therefore, this study aims to explore the influence of supervisors' behaviour on residents. This includes understanding what behaviour residents observed, how this behaviour is interpreted, how residents react to it, and how this affects their own behaviour and professional values. To understand this process, it is important to first examine the professional values of residents, as this provides a foundation for assessing the impact of supervisors' behaviour on these values and how residents interpret and evaluate such behaviour. This study

is conducted from the residents' perspective as this offers insight into how they experience the influence of supervisors' behaviour. The research question guiding this study is: *'How does supervisors' behaviour influence the professional values and behaviours of residents?'*.

To answer this research question, a theoretical framework is presented, focusing on value development, professional values of physicians, the role of Communities of Practice, medical education, the relationship between values and behaviours, and reflection theories to evaluate behaviours. This framework includes a newly developed taxonomy for processing observed behaviours, based on the mentioned theories, which outlines the different levels of influence of supervisors' behaviour can have. To investigate this influence of supervisors, semi-structured interviews were conducted with eleven residents working in a Dutch hospital.

2. Theoretical Framework

2.1 Values

2.1.1 Personal and Collective Values

Values are fundamental beliefs or principles that guide people in their behaviour, decisions, and judgments (Roccas & Sagiv, 2017; Rokeach, 1973). They serve as reference points in motivating people's behaviour and determine how individuals judge the behaviour of others and themselves (Seebregts, 2006; Shahriari et al., 2013). Therefore, values are important for individuals as desirable goals and guiding principles. In addition, knowing someone's values contributes to understanding one's interpretation and evaluation of behaviour, as well as someone's behaviour itself (Savig et al., 2017).

Values can be important to a particular person, group, practice, or culture, making them characteristic of both individuals and collectives (KNMG, 2023; Sagiv et al., 2017; Van Dale, 2017). The values of an individual are personal values, which are independent of context and reflect what individuals state and think about themselves (Sagiv et al., 2017). A collective can also have values as a social group that represent the interests and goals its members strive to achieve (Sagiv et al., 2017). Additionally, these values can explain the collective's actions to reach these goals. Examples of values in general include integrity, respect, empathy, efficiency, freedom, and success (Montemurro et al., 2013).

2.1.2 Professional Values

Besides the general values of individuals and collectives, values also play a role within a profession. Professional values, such as integrity, honesty, collaboration, and economic returns, are values considered important within the occupation and can be both individual and collective (Horton, 2007). Literature describes professional values as primary stable norms that serve as guidelines and motivations for professional behaviour among members of the profession (Poorchangizi et al., 2017). This refers to general values considered important by the professional group or community, also known as collective professional values (Moyo et al., 2015). Understanding the collective professional values of the profession is important for an individual's professional development and acceptance within the community. Knowing these values helps to understand and create a deeper understanding of behaviour of occupational groups, norms a group upholds and actions they undertake to achieve their goals (Horton, 2007). It is therefore important for an individual to understand the collective values, even though these values may differ from the individual's own professional values.

In contrast, individual professional values are described as values that an individual considers as important within their work (Moyo et al., 2015). These values are shaped by a combination of personal values and participation in the profession, a process known as socialisation. Individual professional values guide the behaviour of individuals as members of an occupational group, which influences work practices (Eddy et al., 1994). The individual professional values can be unique to an individual and can differ between members that participate in the same social environment. This stems from the fact that factors that shape these values, such as earlier socialisations and personal values, are unique to an individual whereas collective values are shaped by shared group norms, culture and collective development processes (Schwartz, 2012). This distinction explains why an individual's professional values can differ from those of the group as a whole, despite participating in the same social environment.

2.1.3 Value development

The development of values is a gradual process that takes place throughout an individual's life (Sagiv et al., 2017). Values are developed through a combination of genetic heritage and the influence of exposure to various social environments. Additionally, one's culture, environment, religion, ethnicity, and social environments such as family, communities, and education can also impact one's personal values (Poorchangizi et al., 2017). The literature describes the importance of social groups on value development were communicating about interests, behaviours and needs among group members creates shared values that represent social goals (Hofstede, 2000; Knafo & Schwartz, 2001). Additionally, the importance of personality and social and cultural influences on value development are described, where the importance of childhood and family is highlighted (Daniel et al., 2023). However, when individuals grow older and start to participate in social environments separate from the family, values can be acquired that contribute to the unique personal values of an individual. The literature agrees on the importance of family in childhood and participation in social environments to form personal values (Hofstede, 2000). These personal values form a foundation upon which professional values are later built.

The professional values development of individuals occurs through a combination of personal values, previous participation in social groups, and observation of role models in the workplace (Gassas et al., 2022; Moyo et al., 2015). By observing role models and participating in work, the collective professional values of the profession can be adopted (Kenny et al., 2003). While this emphasises the importance of social processes in professional value development,

the literature is unclear about the influence of the behaviours of role models on this development in a training context (Moyo et al., 2015, Rokeach, 1973; Sagiv et al., 2017; Schwartz, 2012).

2.1.4 Professional Values of Physicians

Professional values can vary depending on the role an individual may hold. The influence of professional values on work is also addressed in the literature within the medical context (Moyo et al., 2015; Poorchangizi et al., 2017). In this literature values are primarily used to describe the ideal image of a physician or to reflect general values considered important for physicians (KNMG, 2023; Van Mook et al., 2007). Professional values such as expertise, integrity, and responsibility are mentioned (Cruess et al., 2015; Van Mook et al., 2007; Wong & Trollope-Kumar, 2014). KNMG (2023) outlines core values that all physicians should have: justice, honesty, beneficence, trust, privacy, respect for autonomy, and non-maleficence. The existing research investigated the perspective of patients and medical federations on the professional values a physician in general (or as a professional community) should have. However, literature on what physicians themselves consider as their individual professional values is lacking (Fluit et al., 2012; KNMG, 2023). This gap may be attributed to the underrepresentation of (the importance of) professional values in medical education (research) and the focus on the perspective of patients and federations. Investigating individual professional values is important, as these values guide the professional behaviour of physicians and contribute to explaining, understanding, and interpreting behaviour at work, which contributes to the quality of care (Epstein, 1999; Martin et al., 2003; Montemurro et al., 2013; Seebregts, 2006; Shahriari et al., 2013; Weis et al., 2002). Although individual professional values of physicians are under-researched, research has been done on professional value development within communities. To understand the professional development of individuals, it is essential to consider the impact of the social environment, such as a community of practice, on this development.

2.2 Communities of Practice

The social environment as a community of practice (CoP) is important in the individuals' professional development (Holden et al., 2015; Vygotsky, 1980). A community of practice is a group of professionals with shared collective values, knowledge, and practices (Monrouxe, 2009; Slay & Smith, 2011; Brown et al., 2020; Cruess et al., 2015; Moll-Jongerius et al., 2023; Wenger, 2006). In this community, people learn together from each other by contributing individual experiences. New CoP members gradually become full participant by

interaction with other members (Cruess et al., 2015; Vygotsky, 1980). Within this process, it is important to understand the social structure and adhere to the community's norms to avoid exclusion (Cruess et al., 2015, Cruess et al., 2019). This social structure of the CoP includes collective values, norms, rules, and traditions (Goldie, 2012). Through socialisation, these aspects can be internalised into the individual professional identity of group members. All previous internalisations influence one's professional development. Physicians within a department can be a CoP, consisting of several physicians with the same specialisation, including residents and supervisors who guide residents (KNMG, 2023; FMS, n.d.). This department plays an important role for new members, such as residents, as interaction within the CoP affects professional development of individuals (Cruess et al., 2015). Concluding, CoP has influence on the professional development of its members by socialisation, highlighting the impact of CoP members on each other. This suggests that the CoP may also affect professional values and behaviour of new members. Additionally, the literature offers possible explanations for the adoption of behaviour and values by new members, highlighting that the risk of exclusion or limited participation increases if they do not understand or pursue the norms and values of the CoP (Cruess et al., 2015; Wenger, 2006). However, there is need for more research into these effects on professional values and behaviours.

2.3 Supervisors and Residency

During residency, residents are part of a community of practice that includes, among others, supervisors. Residency is a critical period in medical education, as most professional development occurs during this time (Barnhoorn et al., 2023). After completing six years of basic medical education, physicians can specialise by engaging in further training to become specialists, known as residency (FMS, n.d.; KNMG, 2023). Residency lasts between four and six years and involves working and learning at clinical practice in different hospitals (FMS, n.d.). Much of residency education is based on practice, reflection, and feedback. During this period, residents are guided, trained and assessed by a board-certified primary trainer and a deputy trainer (Hatala et al., 2022; KNMG, 2023). Besides the two formal trainers, residents also receive guidance from other specialised physicians (supervisors) who collaborate with and mentor the residents. Both trainers and supervisors are included in this study as 'supervisors'. These supervisors, as members of the CoP, are important in the professional development of residents (Cruess et al., 2015; Silveira et al., 2019). Therefore, it is essential that residents receive proper training and guidance from supervisors during this crucial stage of professional

development, focusing on both competencies and the cultivation of professional values and behaviours (Barnhoorn et al., 2019). Research suggests that general practice supervisors who are regarded as role models by residents play an important role in helping them explore who they want to become as future physicians (Barnhoorn, 2022). These general practice residents indicated that they were aware of supervisors' behaviour and that observing this behaviour contributed to their professional identity formation, highlighting the impact of supervisors' behaviour on residents' professional development. However, guidance in general practice residency differs from other specialisms, as these residents are supervised by only one supervisor rather than a whole CoP. There is a need for more specific research into how the behaviours of supervisors affects the values and behaviours of residents (Barnhoorn et al., 2022; Cruess et al., 2014; Witman, 2014).

2.4 Dissonance Between Values and Behaviours

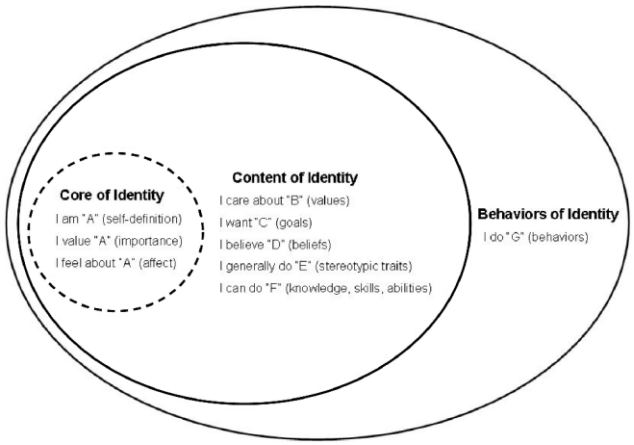
As described in the literature on values, it is known that values guide behaviour and play an important role in how an individual interprets and evaluate specific behaviours. However, values are not absolute predictors of behaviour, suggesting that values and behaviour may differ from one another. There is a lack of literature on this dissonance between professional values and behaviours. However, the concept of dissonance is discussed by Ashforth et al. (2008) focused on behaviour and professional identity, which includes values as a component (Beijaard et al., 2004; Cruess et al., 2015; Rees & Monrouxe, 2018; Slay & Smith, 2011).

Professional identity is the extent to which employees identify themselves with the practice, values and stereotypical characteristics of their profession (Ashforth, 2001; Cornett et al., 2022; Crocetti et al., 2022; Molinero & Pereira, 2013; Sluss et al., 2007). Ashforth's model (2008) describes the relationship between this professional identity and behaviour, with behaviour seen as an outcome of professional identity (Ashforth et al., 2008). Behaviour (as outcome) can conflict with identity and is less stable than the other aspects of identity (Figure 1). This conflict is called dissonance and entails that an individual exhibits behaviours that contradict their own identity. This dissonance can have various consequences, including emotional strain, reduced job satisfaction, and changes in behaviour or identity (Ashforth et al., 2008). To reduce this dissonance, an individual can change behaviours or the identity. Behavioural adaptation means that the identity remains the same, but the individual adjusts their actions to align more with their identity. Moreover, identity adaptation involves the individual

altering their self-concept to align with the behaviour they demonstrate. Through self-reflection, awareness, and role negotiation, this dissonance can be reduced.

Figure 1

Model of Identity (Ashforth et al., 2008)



Considering the current study, Ashforth's model (2008) can possibly be applied to the relationship between professional values and behaviours including dissonance and its consequences. This suggests that changes in behaviour do not necessarily lead to changes in values, and vice versa, which is relevant for examining the impact of supervisors' behaviour on residents' professional values and behaviours. The model also indicates the negative effects dissonance can have on individuals' professional development and work, and how this dissonance can be reduced. However, there is no specific research into the existence of this dissonance between values and behaviours and the consequences. The current study sheds light on these suggestions related to professional values and behaviours.

2.5 Impact of Observed Behaviour

To address the research questions, *'How does supervisors' behaviour influence the professional values and behaviours of residents?'*, this study will focus on how residents process observed behaviour. Reflection is a powerful tool for gaining insight into the impact of actions on individuals (Borton, 1970; Smith et al., 2016). For this study, a new taxonomy about processing observed behaviours has been created to describe different levels of behaviour processing (Figure 3). This taxonomy is based on two reflection models that describe reflection on behaviour, Gibbs Reflective Cycle (1988) and Borton's Reflective Model (1970). The two models are combined because Gibbs' model (1988) places greater emphasis on the impact of

the experience (analysis phase), while Borton's model (1970) focuses more on the event itself and future practice (Smith et al., 2016). First, the two models are explained, followed by a description of the taxonomy.

The Borton Reflection Model (1970) helps individuals to describe an event or action, explain why it was significant, and consider its impact on future work and practice (Figure 2a). This model consists of three questions that guide individual reflection: What?, So what?, and Now what? (Ingham-Broomfield, 2021). These questions are related to the process of behavioural processing. Initially, the individual describes the behaviour observed (1: Observing), then interprets the meaning of this behaviour and why it is noteworthy (2: Interpreting). Finally, the individual reflects on the impact this behaviour has on practice (3-7: Non-Response - Internalising), which relates to the response/action, integration, and internalisation of the behaviour (right column, Figure 3).

Figure 2a

Borton's Reflective Model (Borton, 1970)

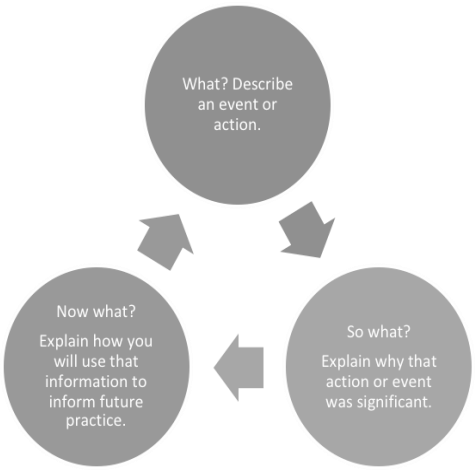
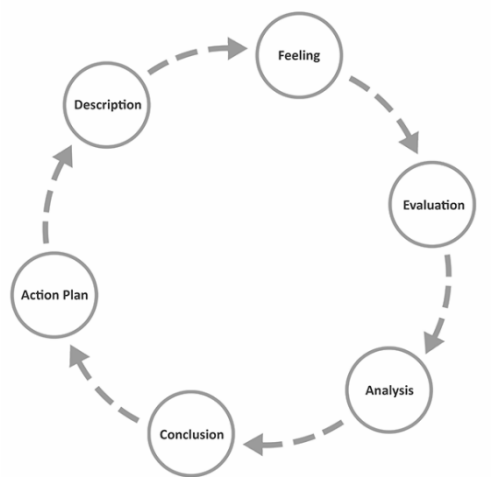


Figure 2b

Gibbs Reflective Cycle (Gibbs, 1988)



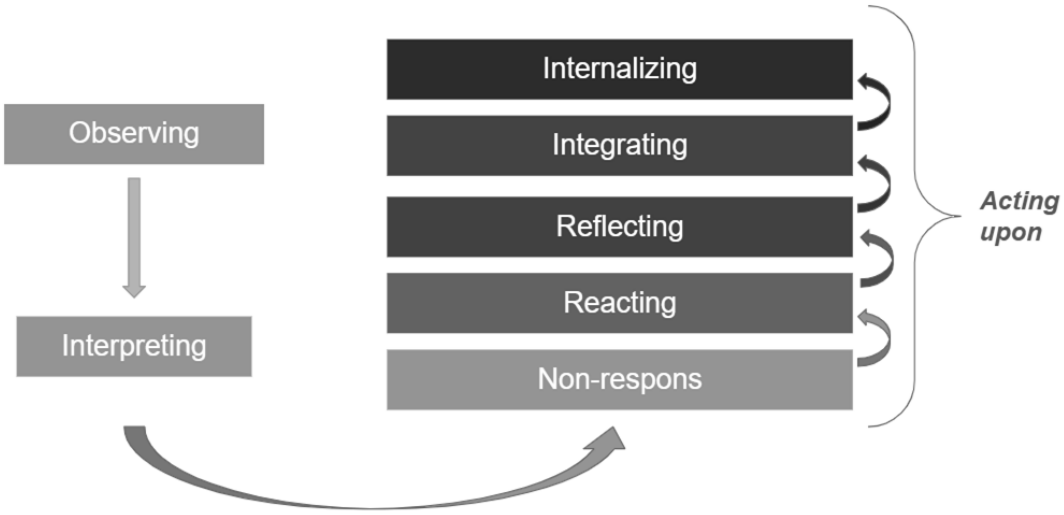
The second model, Gibbs' Reflective Cycle (1988), describes 6 phases individuals go through when exploring an experience: description, feelings, evaluation, analysis, conclusion, and action plan (Figure 2b). Going through these steps promotes learning from experiences and provides insight into the effect an experience has on an individual. Throughout the process, the individual engages in describing the experience (1: Observing), giving meaning to this experience (2: Interpretation), understanding the impact the experience has had on the individual, and considering the implications for future practice (3-7: Non-response-

Internalising). To understand the impact of observed behaviour, elements from both models need to be integrated.

Based on the two mentioned reflection models, the Taxonomy of Processing Observed Behaviour has been created for this study by the researcher. This taxonomy describes various levels of handling observed behaviour. To investigate the influence of supervisors' behaviour on residents, it is first necessary to explore the individual professional values held by residents. Once the resident's professional values are clear, the taxonomy can be used to assess the potential impact.

Figure 3

Taxonomy of Processing Observed Behaviour



The taxonomy consists of two parts. Firstly, the left side of the taxonomy represents two levels that each individual goes through, 'observing' and 'interpreting'. In the 'Observing' phase, the individual describes the observed behaviour of the supervisors. ***Observation*** of the supervisors' behaviour by residents refers to the behaviours that residents observed and mentioned during the interviews, such as '*A supervisors was involved with colleagues by asking questions about their well-being at work*.' Residents' assessment of whether the supervisor's behaviour is remarkable is influenced by the residents' values. It is important to examine what supervisors' behaviours residents identify, as this provides context for understanding the impact of supervisors on the residents' professional development and the aspects of their work and values that are possibly influenced by supervisors' behaviours.

Next, the interpretation of this behaviour by the resident are described during the 'Interpretation' phase. ***Interpretation*** of supervisors' behaviour by the residents includes the meaning that residents give, such as '*negative*', to the observed behaviour. As described earlier, one's values give meaning and judgement to the behaviours of self and others. The meaning that an individual has of certain behaviour is important because it influences how the observed behaviour is responded to.

Subsequently, the second part of the taxonomy, the right side, is discussed (Figure 3). This part of the taxonomy illustrates various levels of how an individual, a resident in this study, deals with the observed behaviour. ***Acting upon*** includes the residents' perception of how they respond to and act upon the supervisor's behaviour (Figure 3, Right Side of the Taxonomy). This can range from doing nothing (Non-Response) to confronting the supervisor or changing own behaviours (Integrating) or values (Internalising). Of interest is how the supervisor's behaviour and the residents' interpretation of it based on their own values affect the residents' professional values and behaviour.

Because not every individual reaches the same level, this side is independent of the left side. The more influence the observed behaviour has had on the resident, the higher the level of behavioural processing. Additionally, influence on behaviour and influence on values are separate from each other, as values predict behaviour and are not a definitive outcome (Montemurro et al., 2013). This means that a change in an individual's behaviour does not necessarily imply a change in values. This reflects the dissonance in identity, where individuals may act against their own values (Ashforth et al., 2008). The different levels are further explained.

The first level, '*Non-response*', describes observing and interpreting behaviour without taking any further action. The observed behaviour, therefore, has no effect on the individual in terms of values and behaviour. The second level, *'Reacting'*, describes how an individual responds to the observed behaviour, such as '*initiating a conversation with the supervisor*'. This involves reacting without it influencing their own behaviour at work or their professional values. The third level, '*Reflecting*', describes how the individual, after observation and interpretation, reflects on the observed behaviour and the situation. This reflection gives deeper meaning to the observation, for example '*comparing the supervisors' behaviour with your own behaviour*' but does not necessarily imply a change in behaviour or values. The fourth level, *'Integrating'*, describes applying the behaviour as reflected upon in their own work. This can involve either imitation, such as '*Implementing effective work strategies of my supervisor into my own work*' or exhibiting opposite behaviour due to conflicting values. The fifth level,

'Internalizing', describes change in (the importance of) values due to the observed behaviour. This can involve acquiring new individual professional values, such as '*Valuing social interaction with colleagues and nurses more*' or enrichment of existing ones. Enrichment of values can occur through alignment or conflict with professional values.

The taxonomy also considers the potential dissonance that may exist between values and behaviours by examining the influence on behaviour and values independently, allowing for differences between professional values and behaviour (Ashforth et al., 2008). This enables the exploration of whether dissonance between values and behaviours arises from observing behaviour, providing a deeper understanding of the influence of behaviour on professional values and behaviours. This approach also highlights potential differences in the impact on behaviour and values, which allows for the identification of differences in the influence of supervisors on behaviour and values that may emerge in this study.

Overall, the taxonomy serves as a central framework to analyse the influence of supervisors' behaviour. Through the taxonomy, the following questions are answered:

- What behaviours did the resident observe?
- How does the resident interpret and reacted to this behaviour?
- How does this behaviour influence the residents' own behaviour and professional values?

This approach allows for the examination of the interpretation residents attribute to the observed behaviour and how residents manage this. Based on this, it is possible to examine how residents perceive the supervisors' influence on their values and behaviours. This model will be used as a guide to answer the research questions.

2.6 The current study

The literature shows that professional values influence behaviour as well as the interpretation, judgement and evaluation of behaviour. Values can therefore impact unprofessional behaviours, which negatively impact patient safety and the quality of care (Barnhoorn et al., 2019; Cruess et al., 2015; Jarvis-Selinger et al., 2012; KNMG, 2023; Van Mook et al., 2007). Currently, only general values of the medical profession are investigated, but individual professional values can vary between members of the department and offer insight into professional behaviours of physicians. Exploring the professional values of physicians is important as they influence and offer insight into (evaluation of) professional behaviours.

Despite the importance of values, research on professional identity suggests that dissonance may arise between values and behaviour, which could explain why individuals show (un)professional behaviour that conflicts with their professional values (Ashforth et al., 2008). Additionally, the research suggests that dissonance can lead to negative consequences that effect individuals in their work. However, there is a gap in the literature on the occurrence of dissonance between professional values and behaviours and its consequences.

In addition to these processes within professional development, external factors such as expectations of the social group (CoP) affects an individuals' professional development by socialisation (Cruess et al., 2015; Holden et al., 2015). Adhering to the community's social structure is important to become full member and avoid exclusion (Goldie, 2012). Although this shows possible explanation for integration of the social structure, the influence of the behaviour of supervisors on individual professional values and behaviour remains unclear.

Addressing these gaps in the literature contributes to exploring the influence of supervisors' behaviour on residents. Exploring the relationship between values and behaviour, focusing on dissonance, can offer explanations for change in behaviour by supervisors while values remain constant. Additionally, the causes of dissonance together with the impact of the (social structure of the) department (CoP) can offer explanations for (not) integrating the (unprofessional) behaviour of supervisors.

As residency is an important period in which supervisors play an important role, research into the impact of supervisors' behaviour is necessary. This could provide explanations for both professional and unprofessional behaviours of physicians, which is important for training future physicians. The aim of this study is, therefore, to gain insight into residents' perspectives on the influence of supervisors on the individual professional values and behaviours of residents to enhance medical education and practice. This study aims to answer the following research question: '*How does supervisors' behaviour influence the professional values and behaviours of residents?'* Sub-questions to be explored are:

- What individual professional values do residents consider important and what is the origin of these values?
- How do supervisors' behaviours, observed by residents, influence the professional behaviour of residents?
- How do supervisors' behaviours influence the individual professional values of residents?
- What behaviours of supervisors did residents observe?

This research focuses on the perception of residents, as their perception of values, behaviours, and the underlying meanings influences how they interact (Shahriari et al., 2013). Since residents are central to this study, it is important to explore their perspective to ensure that the data collected matches their experiences, challenges, and needs in their professional development. In the next section the methodology of this study will be described, where semi-structured interviews are used to answer the research questions.

3. Methodology

3.1 Research Design

This research took a qualitative exploratory approach, which was aimed at exploring a topic that was still relatively under-researched (Swedberg, 2020). This approach allowed the research to investigate residents' perceptions about the influence of supervisors on their values and behaviour, as well as what values residents held, which had not been done before. Within this approach, a phenomenological perspective was applied, focusing on deeply understanding and describing the subjective experiences and perceptions of the participants, which enabled the researcher to examine how participants experienced certain behaviours and influences (Mark Vagle, 2024; Pietkiewicz & Smith, 2012). This led to a study about the residents' perspectives on what effects the observed behaviours of supervisors had on their values and behaviours. Through interviewing residents, the essence of these experiences was captured, providing a better understanding of residents´ perspective on the influences on their daily practice.

3.1.2 Phenomenological perspective

The phenomenological perspective focuses on examining lived experiences from a first-person perspective, emphasising how participants interpret and make meaning of their experiences, with the aim of increasing knowledge about phenomena, developing new theories, or raising awareness among participants (Bliss, 2016; Pietkiewicz & Smith, 2012). This perspective, more specific Interpretative Phenomenological Analysis (IPA), suits the current study as it not only explores the experience of residents but also investigates the interpretations, meaning and impact of these experiences, leading to a deeper understanding of their professional development, behaviour and professional values (Smith & Fieldsend, 2021; Tran et al., 2024). Furthermore, this approach is well-suited for studying relatively unexplored experiences and sensitive topics, as it really focuses on the first-person perspective and

interpretations, trust between researcher and participant and flexibility in data collection. These rich data are obtained in the current study through semi-structured interviews and a card-sorting task allowing for participants to freely express their perspective. Additionally, these methods also foster a sense of trust between the participant and the researcher and is particularly important in research on sensitive topics due to the dependency of residents (Groenewald, 2004; Qutoshi, 2018). Finally, the iterative process of thematic (deductive and inductive) analysis allows for the identification of themes and the linking of theories to the participants' interpretations, which aligns with the interpretative phenomenological perspective.

3.2 Setting

The research setting was Deventer Ziekenhuis (DZ). DZ is a hospital affiliated with the University of Groningen and is part of the 'Collaborating Top Clinical Training Hospitals' (STZ), which means that it places emphasis on new developments, scientific research, and investment in innovations. DZ as a teaching hospital is smaller than an academic or university hospital, which is part of a university and offers a broader range of treatments and research opportunities than other hospitals. However, DZ offers multiple residency programs, making it a pivotal institution for medical training in the region.

3.3 Participants

The respondents were residents working at Deventer Ziekenhuis (DZ) from different specialties (Table 1). Due to the duration of the study, not all specialties were included, but the included selection was diverse, which ensured a representative sample. Each medical specialty has a trainer, including one to seven residents. DZ presently comprises 17 departments with medical specialty training programmes, with 34 formal trainers, 50 residents, and several experienced physicians who also supervise residents. All other departments do participate in the training of medical students but have no medical specialty training. Eleven residents were selected and interviewed, according to saturation. A non-random sampling method, purposive sampling, was used to select residents from different years of training within DZ. Residents of different years and specialties were chosen, because purposive research quickly creates saturation, and a more diverse group could better represent the population.

To ensure the anonymity of the participants, each participant was assigned a letter randomly from A to K. The sample consisted of eleven medical residents, with a mean age of $M = 31.64$ ($SD = 3.23$) and an age range of 27 to 35 years (Table 2). The sample included 72%

women (n = 8) and 27% men (n = 3). Residents had a mean of M = 2.82 years (SD = 1.60) in residency, with a range of 1 to 6 years, indicating that the participants were at various stages of their training. The interviews were collected in June and July 2024.

3.3.1 Anonymity of Participants

The participants of this study are residents still in training. During their residency, residents are assessed by supervisors, which may create a sense of dependence on them. Given that residents are interviewed about their supervisors, this sensitive data requires careful handling to maintain anonymity. To ensure the anonymity of the participants, fewer quotes have been used in this study than is commonly expected in qualitative research. Furthermore, the quotes and examples used have largely been generalised to prevent traceability to individual residents. The data has been represented as accurately as possible with maintaining the anonymity of the participants.

Table 1

Overview of Departments of Participants

Department	Number of Participants
Cardiology	2
Diagnostic radiology	2
Gastroenterology	1
General (internal) medicine	1
Gynaecology	2
Hospital medicine	1
Paediatrics	2
Total	11

Table 2

Descriptive Statistics of Participant Characteristics

	N	*n*	*M*	*SD*
1. Gender: Female		9		
2. Gender: Male		3		
3. Age (in years)	11		31.64	3.23
4. Year of Residency (in years)	11		2.82	1.60

3.4 Pilot study

To obtain information for the current study and ensure the quality of the research, a pilot study was conducted prior to data collection. Two residents were observed for half a day during their work. During these observations, the researcher explored the professional values of the residents underlying the observed behaviour using a pilot study scheme (Schwartz, 2012). This scheme included questions and a comprehensive set of values identified in existing literature, to which values from the pilot study could be added (Appendix 2). This data was used to determine the items that needed to be included on the cards for the card-sorting task, to check representativeness, and to gain deeper insight into the context of the study. The data was not further analysed. Additionally, a meeting was held with a formal trainer to gain insights into the residency from the supervisor's perspective within DZ. In this way, both the meeting and the pilot study have informed the research and contributed to ensuring its quality.

3.5 Instruments

For the data collection, two instruments were used: a card-sorting task and a semi-structured interview guide. This section will outline the development of these tools.

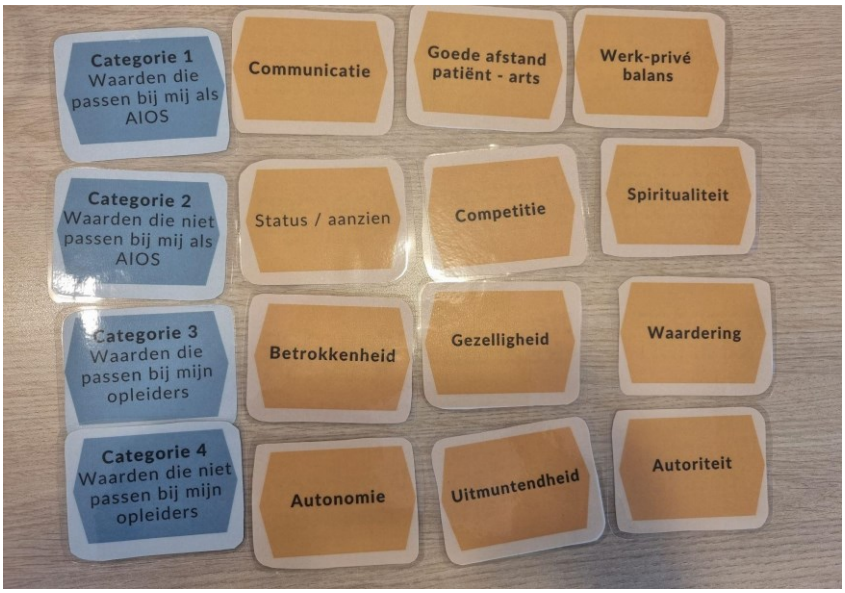
Card-sorting task Card sorting is a method in which participants were asked to sort cards, each with one phrase on them, into specific categories (Santos, 2021). In this study, the card-sorting task was used to obtain professional values of residents and to enhance participant openness during the interviews. The created cards described values of physicians based on the pilot study and scientific literature (Miller et al., 2011). The card-sorting task was closed-ended, meaning that the categories were predetermined. However, residents were given the opportunity to add values using blank cards on which they could write missing values. This ensured that all

important values relevant to the participants were included in this study. The card-sorting categories used were intended to provide structure to the sorting of the value cards (Figure 4). The categories used were (1) Values that fit me as a physician, (2) Values that do not fit me as a physician, (3) Values that fit my supervisors, and (4) Values that do not fit my supervisors. The card-sorting value cards were designed to allow the residents to categorise them into the pre-established categories. There were 50 value cards presented, including 4 blank cards, from which the resident chose 4 cards for each of the 4 categories that fit best from their perspective. There were 3 copies of every value card, in case a specific value fitted more than one category.

The card-sorting task enabled respondents to more easily identify and name the behaviour of supervisors, as well as name their own professional values, given that professional values receive little attention in medical education. This made it easier to start the conversation and helped to communicate about the topics during the interviews (Shen et al., 2021). The data gathered during the card-sorting task included the professional values of the residents. In addition to identifying which values the residents deemed important, this information contributed to understanding how residents interpreted, responded to, and reflected on the behaviour of supervisors, as discussed during the interviews. This insight proved valuable in understanding how supervisors' behaviour influenced the residents' values and actions.

Figure 4

Photo of the Card-Sorting Task with Chosen Cards (Yellow) per Categories (Blue)



Interview guide The interview guide was used to help the researcher during the study to ensure that the research question was answered. This guide described questions and follow-

up questions, providing the researcher with tools to gain an in-depth understanding of the conversation. In addition, the researcher had the freedom to add new questions during the interview that were not part of the guide. The quality of both the card-sorting cards and the interview guide was checked by professionals from DZ and supervisors from UT. The interview guide was based on literature about reflective models, medical education, values and interview strategies (Barnhoorn et al., 2022; Borton, 1970; Rubin & Rubin, 2005; Schwartz, 2012) (Appendix 3). The first part of the interview guide focused on the values of the resident and the second part focused on the supervisors' behaviours and how these behaviours affected the resident. Examples of asked questions are *"Can you share moments, based on the chosen values where your supervisor showed behaviour you perceived as remarkable?'* and *'Did this influence your values and behaviour, and if so how?'* When designing the interview questions, consideration was given to the confidential information that might emerge during the interviews.

To strengthen openness and trust between the participants and the researcher, a card-sorting task was first introduced which also served as an icebreaker. This task served as an indirect way of posing questions, which helped participants feel more comfortable sharing their experiences and possibly led to more in-depth data (Cobo et al., 2021). The literature suggests that the order of questions plays a significant role in eliciting sensitive information (Rubin & Rubin, 2005). Therefore, the interview framework begins with questions closely related to the residents' individual professional values and experiences and later delves more deeply into their observations and interpretations of their supervisors' behaviour, taking into account the residents' dependency relationship with their supervisors. Additionally, the importance of using silence and asking follow-up questions or repeating a phrase is emphasised (Rubin & Rubin, 2005). Pauses give participants the space to reflect and share their thoughts at their own pace, which enhances the quality and depth of their responses. These strategies fostered open communication and trust between researcher and participant, which positively affected the data collection.

3.6 Procedure

Before data collection started, permission was sought from UT's ethics committee (Number 240798). Since no patients of DZ were involved in this study, no ethical permission was needed from DZ. Following this, invitations for participants for the interviews, including the card-sorting task, were sent via email. Due to insufficient responses, several reminder emails

were sent, and residents were approached in person at the hospital. Additionally, the dean of the hospital's education department emailed the residents to encourage their participation in the study. Participants then received an information letter about the study and were asked to complete the informed consent and return it to the researcher via email. An appointment of 45 minutes at DZ was scheduled for the interview including the card-sorting task. Before the actual data collection began, the interviews were first tested with people from the researcher's network who worked in healthcare or were studying medicine. This allowed for testing time management and improving questions to increase the validity of the data collection. Additionally, to make the interview feel more like a conversation, the researcher studied the interview framework thoroughly. This reduced the need to frequently consult notes, fostering a natural interaction that could strengthen the sense of trust between participants and the researcher.

When data collection started, participants were first asked if they had read all the information sent and if they had any questions. If the documents had not been read or there were ambiguities, the researcher explained what the card-sorting task and the interview entailed, what the different concepts meant, and how the card-sorting task worked. Additionally, the researcher reiterated that all data would be treated confidentially and anonymously. This reinforcement of confidentiality enhances the participants' sense of security, encouraging them to respond openly and honestly (Liamputtong, 2007). When everything was clear, participants were asked to assign cards with different professional values to the four categories. The researcher took a photo of the chosen cards and noted in which category the participant placed which values.

After the card-sorting task, the semi-structured interviews were used to answer the research question, guided by the three sub-questions (Appendix 3). During the interview, the researcher first asked the resident why the values of categories 1 and 2 were important or not and where these values came from. To gain insight into the supervisors' behaviours for categories 3 and 4, the researcher asked how these values were reflected in behaviours (as demonstrated by the supervisor). The interview guide directed the conversation, but the researcher was free to deviate or ask further questions. The interviews were conducted physically at DZ, making it accessible for residents to participate. When physical participation was not possible for respondents, an online option was provided. The interviews were audio recorded using UT equipment, stored on a secure disk, transcribed anonymously, and analysed afterwards.

3.7 Data analysis

Card-sorting

The data of the card-sorting task was organised into four frequency tables, representing category one to four. The first two categories included the professional values of residents that were most and least suitable. Categories three and four represented the most and least suitable professional values of the supervisors from the perspective of residents. The focus of this study was solely on the behaviour related to the professional values of supervisors. Therefore, the selected values were not further analysed. However, the selected values were described in descriptive statistics, with frequency tables showing how often each value was chosen by participants (Appendix 5).

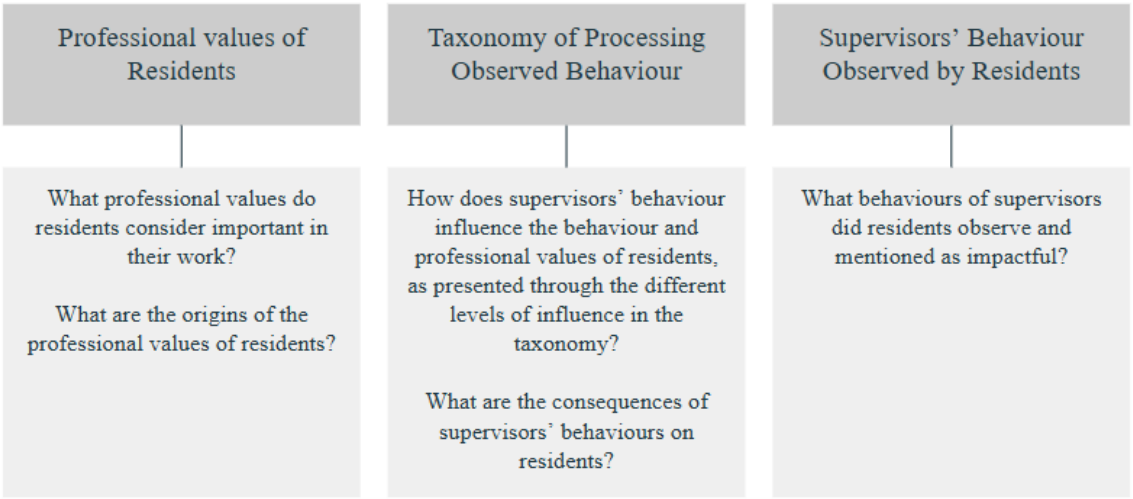
Interview

First, the audio files were transcribed using Amberscript. The transcripts were anonymised by removing traceable words, ensuring identifiability. The researcher checked the transcript, improved it to ensure accuracy, and uploaded it into ATLAS.ti, qualitative data analysis software, where codes and categories could be identified. A thematic analysis was used, whereby the results from the interviews are discussed through themes. This aligns with the research question as this approach is applicable to studies on experiences and psychological concepts such as value (Braun & Clarke, 2008; Verhoeven, 2020). This method is characterised by its flexibility, which enabled the researcher to categorise data under different themes. Thematic allocations were guided by a codebook. Inductive and deductive coding were used and the results were analysed by themes representing the finding from the data.

Firstly, deductive coding was applied using a codebook that consisted of predefined codes (themes) based on the theoretical framework and the research question. The codebook comprised three themes, each containing several underlying (sub)categories: Professional Values, Taxonomy and Observed Behaviour (Figure 5).

Figure 5

Themes of Thematic Analysis of the Influence of Supervisors' Behaviour



The theme 'Professional Values of Residents' contributed to understanding the residents' interpretation, the importance of residents' professional values and investigating the origins of values (Sagiv et al., 2017). The category is separated into two subcategories: 'Origins of Values', representing the different origins of values according to the perspective of residents, and 'Value Themes of Residents', including the importance of the residents' professional values (c1-c2). The second category, 'Taxonomy', helped to comprehend how residents interacted with supervisors' behaviour, allowing the influence to be investigated. Within this theme, different levels of processing were highlighted, including dissonance. Finally, the theme 'Observed Behaviour' was included to represent the behaviours that residents observed, offering insight into which behaviours may have influenced residents' professional development. The deductive codes were marked with a 'D' in the codebook (Appendix 4).

After this, inductive coding 'I' was used to include categories that were not covered by deductive coding, which provided the opportunity to describe unexpected outcomes. By reading the transcripts and identifying missing themes, the codebook was revised. Within the subcategory 'Origins of Values' the code 'Medical Education' was added, to represent values that are developed during the first six years of medical education. Within the theme 'Taxonomy', the code 'Reacting' was divided into the subcategories 'Conversation' and 'Other'. According to the data, 'Conversation' was the most mentioned response, but residents also reacted in other ways covered by the subcategory 'Other'. Additionally, the category 'reflecting' needed to be divided as different types of reflecting occurred, called

'Rationalisation of Observed Behaviour', 'Explanation of Behaviour' and 'Relation to Own Behaviour'. Finally, the code 'Consequence and External Factors' was added which represented the consequences of supervisors' behaviours for residents and external factors that impacted the strength of the adaptation of supervisors' behaviours. The analysis was an iterative process, meaning that the researcher could always return to an earlier stage to make adjustments.

To guarantee intercoder reliability (ICR) of the codebook, an independent coder, who was an EST student, participated in the coding process, conforming to the practical guidelines established by O'Connor and Joffe (2020). This coder was tasked with coding 10% of a randomly selected segment of the transcript, utilising the existing codebook. Following this, the ICR was assessed using ATLAS.ti, applying the statistical test Krippendorff's alpha (Hayes & Krippendorff, 2007). A formal statistical test was necessary for calculating the ICR, as basic percentage agreements are often viewed as inadequate indicators by statisticians (Feng, 2014). After a discussion with an independent coder, refining the descriptions of several codes and creating of new codes, the Krippendorff's α test resulted in a score of 0.80, which met the acceptability criteria. This outcome reflects a strong level of agreement between the coders, given that a Krippendorff's α score of 0.6 or higher is considered acceptable, while a score of 0.8 or higher indicates a good level of agreement (Marzi et al., 2024). Consequently, it can be concluded that the codebook was reliable.

After this the coding process could start. This was done by giving codes to the transcripts by using the analysing tool, ATLAS.ti. After the coding process, the data was analysed deductively based on scientific literature and inductively. The resulting data was presented in the research report using the thematic analysis approach (Braun & Clarke, 2006). The results will be described in the following section.

4. Results

Research was conducted on the influence of supervisors' behaviour on the professional values and behaviour of residents through a card-sorting task and semi-structured interviews. The results are presented in three themes: 'Professional Values', 'Taxonomy of Observed Behaviours' and 'Observed Behaviour'. First, the results from the card-sorting task, which identified professional values that most and least aligned with residents, are presented followed by the results from the interviews that showed the origins of these professional values, deeper understanding and meaning behind the values represented in value themes (Theme 1: 'Professional Values'). Secondly, the results of the interviews that showed the influence of

supervisors' behaviours residents experience on residents' professional values and behaviours are described (Theme 2: 'Taxonomy of Observed Behaviour'). Finally, the results of the interviews are represented according to what behaviours of supervisors residents observed (Theme 3: 'Observed Behaviour'). The next section presents the first theme 'Professional Values', followed by the second theme, 'Taxonomy of Observed Behaviour', and the third theme, 'Observed Behaviours'.

4.1 Professional Values

To answer the first sub-question, *´What professional values do residents consider important, and where do these values come from?´*, the values chosen during the card-sorting task by the residents for each category are first described in frequency tables (Appendix 5). The results showed that ´Enjoyment´, ´Work-Life Balance´, ´Patient-Centred Care´, and ´Communication´ were most frequently selected as important professional values (Appendix 5, Table 1). Additionally, the results revealed that the values 'Authority', 'Status', and 'Competition' least aligned with residents (Appendix 5, Table 2). Regarding professional values of supervisors, the residents chose 'Responsibility' and 'Expertise' as most fitting (Appendix 5, Table 3), and 'Autonomy', 'Patience', and 'Transparency' as the least fitting (Appendix 5, Table 4).

Origins of Professional Values

The interviews revealed that the professional values of residents have originated from several sources (Table 3). One resident indicated that one professional value had its origin in genetic ***heritage***, meaning that a person's values can be hereditary. Resident G described that values grow over time, with ageing and experiencing things, but one of the chosen professional values had '*always been important*' to this resident. Additionally, eight residents indicated that one of the chosen professional values was influenced by ***personal values***, meaning that the professional values have origins in personal values that are important to the resident outside of work. For example, resident K stated that the values '*Reliability'* and '*Competence*' originated from the personal values in life, where this importance was taken into account in the profession:

'*That comes from my idea of what I think makes a good physician. And where that idea comes from, I think, has a lot to do with my own personal values.*' (K).

Besides the fact that professional values can have their origins in heritage and personal values, values can also emerge through exposure to social environments. These social

environments can be a personal or professional context. Within the personal context, three residents indicated that the chosen value originates from ***childhood***. Resident D, for example, explained that the value 'diligence' was central to their childhood and regarded as important by the entire family. Within the professional context, two residents indicated that their chosen professional values were developed through ***medical school***. Resident K explained that as an intern, they began to recognize certain values demonstrated by role models that resonated with them. Regarding ***residency***, nine residents indicated that one or more of their professional values originated during residency. For example, resident K stated the importance of observing and critical reflection on supervisors and role models during residency, which makes it an important stage of professional value development. Finally, nine residents indicated that the chosen professional value originates from their ***work***. Resident C noted that these values are learned through *'the practice of being a physician'*, and that certain values align with specific specialties, making them essential to strive.

The results show that residents' values primarily originated from the social environments 'work' and 'residency' and are influenced by the personal values of residents. This places emphasis on the importance of professional social environments in the professional value development of residents.

Table 3

Overview of Origins of Professional Values of Residents

Origin	Frequency	
	n	%
Genetic Heritage	1	9%
Childhood / Family	3	27%
Personal Values	8	73%
Medical School	2	18%
Residency	9	82%
Work	9	82%

Value Themes of Residents

The interviews explored the importance of the values chosen by residents which indicate what the current generation of residents considers important in their work, categorised into three themes: *competences*, *environment* and *preconditions*. These values not only reflect what residents consider important in their work, but also influence their interpretation and reflection of observed behaviours from supervisors. Additionally, knowing the values of residents contributes to explore how these values are influenced by supervisors' behaviours. The most mentioned and remarkable values will be addressed, showing both consensus and differing viewpoints among residents.

Competences This paragraph describes the professional values identified by residents as important competencies in performing their job. These values include good *communication,* the delivery of *patient-centred care, competence*, and establishing a good *physician-patient relationship.* The value of *communication* was considered important by seven residents (63.64%), both in interactions with patients and colleagues. Besides the large number of residents who mentioned the importance of this value, their argumentation was also noteworthy. Residents described good communication as essential for collegiality and work quality as it enhanced teamwork and job satisfaction (C). In patient care, residents stated that good communication contributed to patient satisfaction, as confirmed by positive feedback residents received related to communication (J, G). However, some residents found it challenging to be fully open due to the dependency relationship between residents and their supervisors, which can negatively affect both residents and patient care highlighting the importance of open communication. In conclusion, residents emphasise the value of good communication and its positive impact on both collaboration with colleagues and the quality of patient care.

Six residents (54.55%) indicated *patient-centred care* as important for patient satisfaction and work practices. Residents stated that patient-centredness has become increasingly important in healthcare over the past 20 years, with a shift towards shared decision-making between physicians and patients, requiring a different approach to practice (resident I, C). However, residents experienced working in a patient-centred manner sometimes as challenging due to high workload. This emphasises the importance of patient-centred care among residents, while also mentioning the high workloads as a challenge in applying this approach.

Four residents (36.36%) mentioned *being competent* as an important value for practicing their work, which was described as the ability to meet expectations of the profession. Residents highlighted the importance of being consciously competent and consciously incompetent, and

they expected the same awareness from their colleagues (H). This shows that residents value a transparent culture centred on providing high-quality care.

Finally, two residents (18.18%) mentioned that establishing a good *physician-patient relationship* is important for performing their work. It was stated that too close relationships with patients could hinder the work practices. For residents, this emphasized the importance of trust between patients and physicians while maintaining professional boundaries (G, B).

In summary, these values represent a comprehensive view of the competencies that residents consider important for delivering high-quality care. Additionally, these values suggest that providing high-quality care, according to residents, depends not only on technical competencies and expertise but also increasingly on interpersonal skills and working with a patient-centred approach.

Environment The category 'environment' represents the professional values that residents consider important in their surroundings to perform their work effectively. Values frequently mentioned or considered noteworthy include *approachability*, *authority*, *competition*, and *status*. One resident (9.09%) stated that being approachable and being able to approach others is important in work as this enhances collaboration (K). This resident sought feedback to bridge the gap between themselves and medical interns they supervise. This highlights residents' need for an open working environment where asking questions is low threshold, which aligns with earlier mentioned values.

In contrast, residents indicated that *competition*, *status*, and *authority* are not conductive to effective work. These values were described as notable, as residents felt they negatively affect job performance. For instance, seven residents (63.64%) mentioned *competition* as a negative impact on their work. However, residents stated that there is a lot of *'elbowing'* among physicians for residency positions, mainly in other hospitals. This encompasses that young physicians view and treat each other as rivals rather than collaborating, which has negative consequences for the working environment.

Additionally, six residents (54.55%) indicated that they found *authority* and *status* unimportant in their work, as this can negatively impact the relationships with colleagues. Two residents suggested that reducing authority and hierarchy would lead to a better work environment and collaboration (I, C). Others expressed their negative association with authority due to physicians pursuing hierarchy and treating nurses as inferior (E, H). They stated that they no longer wish to be seen as the physician who is always right and makes decisions without considering the perspectives of others (H, A).

These results indicate that residents attribute no importance to hierarchy, competition, and authority, and believe that these values negatively impact their work. This emphasises their need for an equal and open work culture focused on collaboration.

Preconditions The last category represents the preconditions that residents considered important for performing their work. These values included a good *work-life balance* and *enjoyment* in the work. Remarkable is that eight residents (72.73%) emphasised the importance of a good work-life balance, while almost all residents stated that they experience an imbalance. They still value a good balance, as they experience the negative consequences of the imbalance on their well-being (D, I, H). Notable is that only one resident mentioned having a good balance due to efficiency at work and clear boundaries (J). Additionally, five residents (45.45%) stated that *enjoyment* of work is essential for sustaining their work, given the high workload and responsibilities. They mentioned that enjoyment of work motivates them to work hard (resident I, A). In conclusion, residents emphasized that enjoyment of work fosters motivation, with a good work-life balance playing an important role in maintaining this enjoyment. Despite residents experiencing imbalance, their emphasise on the importance of a good balance reveals their need for change in work culture, with greater attention to personal lives.

In summary, residents value competences such as good communication, being competent, and a patient-centred approach, while competition, authority and status detract from good job performances and work environment. This underscores their need for a positive and open work culture where collaboration, enjoyment, and delivering high-quality care are central, alongside a focus on a good work-life balance.

4.2 Taxonomy of Processing Observed Behaviours

This section describes the process of the influence of the observed behaviour of supervisors through the levels of the taxonomy, answering the research question: '*How does supervisors' behaviour influence residents' behaviour and professional values?*'. The phases of *observing* and *interpreting* are always followed. The subsequent phases describe the influence that these behaviours have had from the residents' perspective.

Observed behaviour and interpretation

Residents mentioned observed behaviour from their supervisors 77 times. This behaviour was related to various themes that will be described in the third section. The interpretation of the supervisors' behaviour by the resident can be positive, interpreted as professional or appropriate, or negative, interpreted as unprofessional or inappropriate.

Residents interpreted the supervisors' behaviour positively 26 times (33.8%) and negatively 51 times (66.2%), suggesting that negative interpretated behaviour was more often mentioned as remarkable than positive interpretated behaviour.

Non-Response

Eight residents mentioned choosing not to respond to certain behaviours they observed (31.2% of the cases). Reasons included the perceived futility due to generational differences between supervisors and residents and the dependency position of residents, as the supervisors play a role in their assessment. They stated that this dependency often led to adoption of supervisors' behaviour rather than initiating conversations. Other residents stopped responding after previous negative experiences, such as: *"Blunt remarks"* and *"Supervisors who hung up the phone during conversations." (H, D)* One resident noted the organisation is structured around senior physicians and plans to act differently in the future but is currently adapting and not responding:

"I also believe that if someone has been behaving a certain way for 60 years, they're not suddenly going to change in the last three years of their career or be open to feedback [...]. It is usually not the generation that's receptive to such things." (H)

Reacting

After observing certain behaviours, ten residents mentioned responding to one or more observed behaviours sometimes responded (after 60% of the observations). Residents responded in various ways, but they most frequently indicated that they discussed their observations with supervisors.

Conversation As a reaction to observed behaviour, eight residents mentioned that they initiated conversations with their supervisor (after 38.3% of the observations). Residents stated that conversations with supervisors were accessible, also when they wanted to discuss negative experiences (K, C). Additionally, residents also addressed professional behaviours of supervisors, by complementing the supervisor which improved their relationship (G). In contrast, residents mentioned that the dependency relationship often made it more difficult to start a conversation:

"They are my supervisors, so I am partly in a position of dependence. And I look up to them [...], but of course, I want to learn from them. So initially, you're inclined to simply adopt their approach and go along with them in that.' 'And sometimes, it's about picking your battles, so

often thinking, 'Ah, whatever.' If I find it important because I notice it irritates or disadvantages me, then I stand my ground." (E)

Although residents had conversation, they felt resistance to new ideas, experienced difficulties in creating change within an established group and were told that the current way of working was the norm (C, D). In conclusion, residents initiated conversations with supervisors about negative and positive experiences, aiming to change the situation or improve relationships. However, some resident felt hindered by their training position, which can affect open communication, addressing (un)professional behaviour and the pursuit of their professional values.

Other Residents also mentioned other ways they responded to supervisors' behaviour (after 21.7% of the observations). To have more impact on the work-life balance, residents offered to create work schedules (K, H). Other residents joined committees to influence collective agreements and organise social activities to improve relationships between supervisors and residents. Finally, resident B mentioned making more jokes to create a more informal work environment: *"Everyone is working incredibly hard, and the whole system is under pressure. Sometimes, I just miss a bit of humour and light-heartedness."* Concluding, residents took on more responsibility in order to influence the current situation, which emphasises the need for residents to pursue their professional values.

Reflecting

After the reacting phase, residents indicated that they reflected on the observed behaviour (after 79.4% of the observations). The reflection phase consists of three forms of reflecting: rationalising, explanation, and relation to their own values and behaviours.

Rationalisation of Behaviour Seven residents reflected on the behaviour of supervisors and rationalised it (after 27.3% of the observed behaviours). Resident F described unprofessional behaviour of a supervisor but expressed understanding saying: *"I hope I do not end up like that, but I assume no one aims for that."* Resident K acknowledged that although one supervisor communicated poorly this supervisor was still an excellent physician:

"At first, I was very put off by a physician who did not communicate properly with their patients. But later, after encountering more complications, I came to realise that this physician is actually the best surgeon of the entire team"

This highlights a focus of competence over communication. Reasons for unprofessional behaviour according to residents are high workload, responsibilities, and the pressure from the

healthcare system. For example, residents mentioned that they understand that supervisors were less involved due to mentoring new residents every year, which reduced their willingness to invest this relationship (C, A). Finally, they felt supervisors often struggled to understand the situation of residents, as they were no longer in residency themselves (C, A, F). Although some behaviours were interpreted as unprofessional, residents expressed understanding, recognizing their work conditions and pressures.

Explanation of Behaviour After 9.2% of the observations, residents reflected on supervisors' behaviour by providing explanations. Resident C stated that a supervisor emphasised the importance of taking time for patients because this led to relevant information. Additionally, resident F explained that a supervisor provided little feedback during treatments and only intervened when necessary to let residents make choices.

Relation to Own Behaviour or Values Residents also reflected on the behaviour by relating it to their own behaviours or values (after 42.9% of the behaviours). Residents stated that supervisors were concerned about the well-being of colleagues, which aligned with their own professional values (K, B, F, J). In contrast, residents observed conflicting behaviours related to hierarchy and authority, which they attributed to changes in the healthcare with increased importance to patient-centred care, equality, and work-life balance and the fact that supervisors are less frequently corrected (G, F and E).

Concluding, residents developed a deeper understanding of supervisors' behaviours through rationalisations, creating explanations, or making comparisons, which shows the impact of these behaviours on residents' professional development, as they encourage critical thinking and reflection.

Integrating Supervisors' Behaviours

The interviews revealed that the behaviour of all residents had either changed or been reinforced by the observation of supervisors' behaviour. Reinforcement refers to an increased awareness and more frequent display of certain behaviours, while behavioural change refers to a change in residents' behaviours, both resulting from observing supervisors' behaviour.

Reinforcement of Professional Behaviour (positive) Ten residents mentioned that their professional behaviour is reinforced by observing supervisors' professional behaviour, meaning they already exhibited these behaviours, but the observation encouraged them to display them more frequently of intensely (after 36.4% of the observations). The behaviours that residents mentioned that led to this reinforcement were related to collegiality, involvement, empathy and efficiency in work. One resident mentioned that supervisors organised social activities for the department to strengthen mutual bonds (J). The resident experienced this positively and felt

motivated to initiate more team-building and social activities as well. Other residents stated that they sought more feedback from interns, showed more empathy on personal situations and communicated more transparently about their availability as a result of the behaviours they observed from their supervisors (C and J). Resident F stated:

"*It definitely affects the way I work, especially with my medical interns. [...] You need to create a safe learning environment where interns feel comfortable speaking to supervisors without fear of repercussions. It is also important that you dare to take responsibility. [...] I often say, 'Would you like to discuss this with the supervisor yourself, or would you prefer me to look at it first?' And when support is needed, I am prepared to say 'I have seen the patient too, And I agree.' In the future, as a medical specialist, I know these things will still be important to me.*"

Finally, one resident observed that a supervisor worked efficiently but also focused on patient-centred care. This motivated the resident to pay more attention to combining these aspects into the own practices. In summary, residents stated that observing the behaviour of supervisors reinforced their own professional behaviours, leading them to apply these more in their work, which highlights the positive effect observing professional behaviours can have on residents and their daily practice.

Reinforcement of Professional Behaviour (negative) All residents indicated that their behaviour was reinforced by conflicting unprofessional behaviours of supervisors (after 35.06% of the observed behaviours). For example, two residents mentioned unclear communication from supervisors:

"*Supervisors always have something to say, but they never really say it, at least not to people it concerns. You don't hear much negative feedback, but it's undoubtedly there [...]. So it would be better if they just said it. It doesn't have to be negative, it can be constructive criticism. But if you train someone, you also need to be able to handle giving feedback, rather than pretending everything is fine" (H)*

Consequently, the three residents adopted a more transparent approach in their work, offering constructive feedback and maintaining open communication with colleagues and interns. Related to hierarchy, three residents mentioned that observing hierarchical behaviours of supervisors prompted them to promote equality within the organisation (J, E, and F):

"Sometimes, when the experienced physician says, 'This is how it is', you have to say, 'That's how it is, and I'll do it. We are all still human beings and, in that sense, we are equals, even though we have different roles in the organisation." (J)

"I try to involve medical interns and nurses, with the purpose of prioritising flexibility, collaborations and the delivery of high-quality patient care over hierarchy." (F)

Overall, residents indicated that their supervisors' behaviours that conflicted with their own behaviours shaped their professional perspective, teaching them to adapt more transparency and equality to improve collaboration and the quality of care. This reveals the effect of conflicting behaviour in the professional development of residents.

Change of Behaviour (positive) Besides reinforcement of behaviours, six residents mentioned that their behaviour was positively changed by observing supervisors' professional behaviours, which resulted in adopting new professional behaviours (after 27.3% of the observations). Resident D mentioned that observing a supervisor who took more time for patients made this resident implement this into their own practices:

"For me, it is also more about realising that this is important as well, because I tend to focus on working hard and quickly. This changed my approach in this kind of situations because I saw that it is sometimes better to take a moment for patients, as it can help prevent misunderstandings later on [...] and can reduce anxiety of patients."

Related to the value of 'advancement', resident D mentioned that the expectations of supervisors to excel motivated them to develop professionally both within and outside the residency programme. In summary, residents adopted new behaviours as a result of observing supervisors' professional behaviours, related to patient care, professional development and communication. These changes emphasis the positive influence of professional behaviours of supervisors on residents' practices.

Change of Behaviour: Dissonance (negative) Ten residents stated that they changed their behaviour after observing supervisors' behaviours that did not align with the residents' professional values, leading to dissonance between residents' values and behaviours (after 66.2% of the observations). Residents mentioned experiencing negative changes in behaviour related to work-life balance, involvement, authority and collaboration.

Most residents experienced dissonance with their professional value of 'a good work-life balance', as they exhibited behaviour did not align with their desired balance, as a result of

observing supervisors' behaviour of their supervisors. Resident K for example indicated that supervisors stated that attendance at reflection evenings was not mandatory, yet the supervisors themselves were present. This created pressure to participate, which negatively impacted the work-life balance of this resident. Resident D added that, although supervisors emphasised the importance of work-life balance, they also worked outside of office hours, leading to the impression that this was the norm. Residents stated that, although their values remained unchanged, that behaviours related to work-life balance did change during residency, as they experienced that factors that impact this imbalance, such as high workload and work culture, did not change (K, I).

Regarding authority, residents indicated that they conformed to the authoritarian style of some supervisors as a result of supervisors' behaviour:

"After sharing my idea with the supervisor regarding a treatment plan, I received an unpleasant remark in response, which resulted in increased tension and made me feel less comfortable expressing my perspectives, out of fear of receiving the same kind of comments again." (H)

Residents stated that they still commit to their own perspective on authority and transparency, but that they adjust their behaviour (H, E). Reasons for adjusting their behaviour at the expense of their own professional values were to avoid exclusion, fear of uncomfortable relationships with supervisors, their training position, high workloads and expectations from supervisors (B, D). This explains why dissonance can occur between behaviour and professional values of residents. Three residents expressed the desire to change their behaviour after residency to realign it with their own professional values, when external factors are reduced (behavioural adaptation). However, two residents stated being confident about their competencies and the knowledge that they cannot be easily dismissed from residency, which provides them with more space for authenticity and the expression of their own values (E, H). Nevertheless, most residents do not experience this confidence, which underscores the influence of these factors on residents' behaviours.

Besides not behaving in line with one's professional values, residents mentioned other negative consequences of this dissonance, such as mental health issues, a negative future perspective and a decrease of job satisfaction (B, D, H):

"As my work is currently structured, I am not sure if I will continue doing this in the future. [...] I absolutely love my job at the moment, I really enjoy the content of my work, but I can

imagine that in the future my priorities might change, and if those do not align with my job, then I'll have to find something else."

Overall, residents adopted the behaviours of supervisors, also when they did not align with their professional values, leading to dissonance, which shows the impact of supervisors' unprofessional behaviour.

Internalising Supervisors' Behaviours

Residents stated that the supervisors' behaviour also impacted their professional values. They mentioned that these values were reinforced, enriched and changed after observing behaviour.

Reinforcement of Professional Values (positive) Seven residents indicated that the supervisors' behaviour, which aligned with their own professional values, made their professional values more important (after 23.38% of the observations). Residents mentioned this reinforcement related to collegiality, patient-centeredness and communication with colleagues.

Related to 'collegiality' and 'involvement', residents mentioned increased importance of these values by observing supervisors that communicated respectful, involved residents in social activities and gave them positive feedback (K, E, F). Resident F stated:

"I still remember [...] there was once a situation with [specialists] where we had been operating for a very long time, and one of the [specialists] said: well done, it seemed easy, but you stood there for a long time and did very well. Yes, those small moments, just saying something simple, are really important. [...] I think that is something I want to carry forward, both now and in the future, because you do have significant influence, even on medical interns. And often, we consider medical interns less important, while they are our future colleagues. So, I think it is important to make them feel valued and show genuine personal interest in them."

Other residents emphasised that values such as expertise, patient-centeredness, collegiality, and clear communication were reinforced by observing supervisors who created an informal yet professional atmosphere within department (C, B). In summary, the results showed that observing supervisors led to reinforcement of professional values. This emphasises the positive influence of supervisors' behaviour on the professional values of residents.

Reinforcement of Professional Values (Negative) In contrast to the positive reinforcement values, nine residents mentioned reinforcement through negative observations means that residents, by observing the behaviour of supervisors that does not align with their

own values, develop a stronger emphasis on their own professional values (after 36.36% of the observations).

Regarding communication, residents mentioned that supervisors communicated only formally with colleagues and showed unprofessional behaviours during discussions. This made creating an informal work atmosphere and being collegial and supportive towards colleagues more important for these residents (C, F, A and J). Related to work-life balance, resident F described a personal situation where the supervisor did not acknowledge the residents' struggle to balance work and personal life, which decreased the residents' appreciation for hierarchical structures and increased the need for equality. Additionally, residents stated that observing the busyness of supervisors made them realise how important a good work-life balance is for themselves (H, D).

These results highlight that unprofessional behaviour of supervisors not only negatively impacted the residents' behaviours but also reinforced their professional values that conflict with these behaviours. While such behaviour is not deemed desirable, it can help residents become more aware of their own values fostering critical thinking through the contrast it creates. However, the findings of the current study indicate that the negative effects of unprofessional behaviour are bigger and occur more frequently than the positive reinforcement of professional values by unprofessional behaviour.

Enrichment of Professional Values (positive) Three residents indicated experiencing positive enrichment of professional values, which means they acquired new values they perceived as positive through observing the professional behaviour of supervisors (after 9.09% of the observations). These behaviours were related to communication and involvement. For example, two residents stated that observing supervisors that showed interest in colleagues where they were not used to, have changed their perspective (J and A):

"I now value and take it into account in the sense that [...], I have now seen the value of what it can mean when, as a department, you get along well, actively seek social interaction, and the effect this has on the rest of the employees."

In summary, observing the professional behaviour of supervisors positively contributes to the enrichment of residents' professional values, thereby supporting their professional development.

Change of Professional Values (after negative observations) Four residents mentioned a shift in their professional values as a result of observing supervisors´ unprofessional

behaviour, in combination with expectations of supervisors and work (after 5.19% of the observations). For example, resident H stated they have increasingly found it important to work at a high pace to accomplish as many tasks as possible in a day, whereas this resident previously placed much greater importance on taking time for patients and supervising interns. Residents D stated that their importance of the value 'work-life balance' decreased as this resident mentioned that the circumstance, that hindered having a good work-life balance, did not change. The resident stated that nearly all members of the department and the high workload demonstrated little room for change which made this resident accept the situation and decreased the importance of this value. This suggests that residents adjust the importance of their values to realign with their behaviours (value adaptation). Finally, resident A mentioned that they have taken on the commitment to provide the best quality of care, with impatience becoming an increasing factor, resulting in frustration towards colleagues and interns:

"Well, I do notice that I am more impatient. It is often like: 'Things need to move along quickly because it is getting busy here, we need to keep going' and then there is less time for [...] medical interns. [...] But of course, that impatience comes from not having or not taking the time to teach the medical interns for example."

Reflected in these results is that the high workload and pace sometimes require residents to prioritise completing tasks and delivering high-quality patient care over patience and other considerations. They indicated that this stemmed from supervisors, as everyone feels the pressure and wants to deliver the best patient care (I, A, H and D). In summary, different residents changed their values in a negative way due to the expectations of work and supervisors' behaviours. This highlights the negative influence of supervisors' behaviours on the professional values of residents and can ultimately lead to unprofessional behaviours.

4.3 Supervisors' Behaviour Observed by Residents

In addition to the influence of supervisors' behaviour, this study also examined which types of supervisors' behaviours affected residents. These findings reveal what aspects of residents' work and values are influenced by supervisors' behaviours, thereby providing context for the influence of supervisors. This addresses the sub-question: '*What behaviours of supervisors did residents observe?*' The behaviours are described using the value themes.

Work-private balance Six residents mentioned that they observed behaviour from supervisors related to *work-life balance* (28.57% of the observed behaviour). Remarkable in

these results is that this theme is both frequently mentioned as observed behaviour and as residents' professional value, highlighting its importance for the current generation of residents. Residents stated that supervisors often had an unhealthy work-life balance despite encouraging residents to maintain this balance themselves. They attribute this imbalance to responsibilities and workload. Supervisors suggested that residents did not always need to attend meetings, yet they themselves were often present, which made the resident feel obligated to attend as well. This behaviour of supervisors made it difficult for residents to adhere to their professional values and led to dissonance between values and behaviour. This dissonance negatively impacted residents' job satisfaction, well-being and future perspective (H, I). Residents expressed their dissatisfaction to supervisors, but there followed no improvement, which indicates the differences in residents' and supervisors' values. Furthermore, residents stated that these behaviours also negatively impact the new generation of physicians, as medical interns are reconsidering their choice of specialty due to their observations of supervisors and residents (K). Notably, observing an supervisors' imbalance reinforced the professional values of residents, as it made them value their work-life balance more. The reinforcement of these values, alongside the continued display of conflicting behaviour, can lead to an increased dissonance between values and behaviour, which can also increase the negative consequences of this dissonance. This highlights the influence and consequences of supervisors' behaviour related to work-life balance on residents.

Involvement Ten residents mentioned that they observed behaviour related to involvement of supervisors (28.57%). Many residents experienced their supervisors as involved on both a professional and personal level (G, B). For example, resident K mentioned support of the supervisor after a hard day at work, which created safety and improved their relationship. The positive behaviours created a positive work atmosphere and motivated residents to implement these behaviours in their own work (J, E).

In contrast, four residents stated that certain supervisors were less involved (A, I, C, F). Other residents mentioned missing social activities with the department outside of work and lunchbreaks with supervisors resulting in little personal knowledge of one another (A, F). These shared moments could enhance communication and collaboration. Although residents tried to improve the relationship by initiating activities, this had little effect due to entrenched ways of working and the professional distance that supervisors considered desirable (I). Resident H added that the focus on patient care by supervisors sometimes came at the expense of mentoring residents. Residents stated that they adopted these behaviours of supervisors in the guidance of medical interns, which negatively affected their development.

Supervisors' behaviour had both positive and negative impact on the behaviours and values of residents. Positive behaviours made residents aware of the impact of involvement on relationships at work, which enhanced the work atmosphere and practices of the department and resulting in residents adopting these behaviours. Negative behaviour reinforced residents' values by experiencing conflict with their own values and made them more aware of their role as future physicians. Notable is that residents only experienced this after they had more positive experiences. Negative behaviour also led to negative change of residents' behaviours as these behaviours are sometimes seen as the norm. However, residents expressed a desire to be involved, but stated that the work expectations often made this challenging. Finally, residents do not view these values as a threat to their future professional prospects, and their observations are largely positive, which may explain why residents experience fewer negative consequences related to this theme. Furthermore, they recognise the benefits of involvement, which reinforces their desire to apply this in the future.

Collegiality Related to interaction and collaboration with other members of the department, six residents discussed collegiality and collaboration, with both positive and negative experiences (15.58% of the observations). Most residents experienced good collaboration, with resident K describing the department as collegial, highlighting teamwork between physicians and nurses, and a shared responsibility for the quality of care. Another resident stated that the formal learning environment came at the expense of critical feedback (E). Residents also described their current workplace as less distance between residents and supervisors and there is a better interpersonal bond, although there is still room for improvement, according to other hospitals (D, K). One resident stated that supervisors sometimes acted authoritatively in collaborations, but that the relationship with supervisors becomes more equal as residency progresses (resident A).

Related to the behaviours and values of residents, the behaviours of supervisors led to a reinforcement of professional values and changes in behaviour of residents. Resident mentioned that the supervisors' professional behaviour inspired and motivated them in their own practices, which improved collaboration and work atmosphere (D, K, A). In contrast, residents that observed unprofessional behaviour stated that those behaviours are primarily related to the dependency relationship between residents and supervisors, which affected openness and trust (H). Those residents expressed a desire for more equality and openness in the future, but also mentioned that workload and responsibilities may hinder this.

Hierarchy and equality Eight residents observed supervisors' behaviour related to *hierarchy* and *equality* (36.36% of the observations). Residents mentioned little hierarchy

within their department and experienced a pleasant, no competition, equal collaboration between supervisors and residents, contrasting with experiences in other hospitals (A, G, E and D). This led to a positive work atmosphere (K, D). In contrast, residents described meetings with certain supervisors as a struggle and indicated that some older specialists still adhered to a hierarchical work style, allowing little room for feedback (J, F, C). Overall, most observations are positive and residents view supervisors as knowledgeable and engaged in their work and patient care.

Related to residents' professional values, hierarchy is regarded as unimportant, while equality is valued in the workplace. The supervisors' behaviours led to changes in behaviour as well as reinforcement of values. Positive behaviours related to hierarchy strengthened relationships with supervisors and inspired residents in their own supervision. In contrast, negative behaviours caused frustration, strained relationships, and reduced job satisfaction. Negative examples shown by supervisors can lead to unprofessional behavioural adoption by residents, as these actions could become perceived as workplace norms over time. Nevertheless, residents expressed a desire to create an equal work environment in the future.

In conclusion, the behaviours mentioned by residents aligned with their professional values, highlighting that these values influence the interpretation and evaluation of others' behaviour. When residents' values are enriched by supervisors' behaviour, their evaluation tend to become more critical. This may explain why residents are more likely to notice behaviour that aligns or conflict with these values. It underscores the importance of professional values in the development of residents, as the alignment between their values and the supervisors' behaviour affects the residents' professional behaviour.

4.4 Summary of results

Professional Values Residents indicated that they value professional values such as 'enjoyment', 'work-life balance', 'patient-centred care', and 'communication'. The value of 'work-life balance' emerged as the most frequently chosen value, with residents reporting that supervisors' imbalance, the impact of high workloads and expectations and responsibilities at work negatively affects their personal lives. Conversely, residents indicated that status, authority, and competition are not important in their work, as they believe these do not contribute to providing good patient care and can have negative effects on relationships and collaboration with colleagues. This shows the need of residents for an open and equal work culture. According to the results, the origins of these professional values primarily lie in

experiences at work and during the residency period, combined with personal values, highlighting the importance of the work environment and socialisation in developing professional values.

Taxonomy The results of this study demonstrate the varying levels of influence that supervisors' behaviour has on the behaviour and professional values of residents, according to the residents' perspective (Table 4). In total, residents identified 77 instances of observed behaviour from supervisors, with 51 instances interpreted as negative and 26 as positive. In 31.2% of the cases, residents decided not to respond to the behaviour they observed in their supervisors, primarily due to their dependent position (Figure 6). When residents did choose to respond, this occurred in 38.3% of the cases through engaging in conversation with the supervisor or by taking on extra tasks to improve the work-life balance or the work environment. In addition to responding, residents reflected on the behaviour of their supervisors in 80% of the cases. These reflections ranged from rationalising unprofessional behaviour to comparing the behaviour of supervisors with their own professional values. Sometimes, this reflection led to an understanding of the supervisors' behaviour, although it did not always align with the residents' own professional values.

The results of the 'integrating' phase show that observing supervisors resulted in changes in the residents' own professional behaviour. In 36.4% of the cases, the observed positive behaviour of supervisors enhanced the professional behaviour of residents, whereas in 35% of the cases, the residents' behaviour was reinforced by observing unprofessional behaviour, according to the perspective of residents. Additionally, residents noted that they changed their behaviour after observing positive behaviour from supervisors in 27.3% of the observations, resulting in the adoption of new technical and interpersonal skills. In contrast, observing unprofessional behaviour led to a negative change in behaviour, which sometimes resulted in dissonance when the residents' values remained unchanged. This dissonance, which was amplified by external factors, had negative consequences for residents, such as reduced job satisfaction, decreased well-being and negatively affected their professional future perspective. The external factors that residents mentioned were the dependency position, workload, fear of exclusion and expectations of supervisors. However, two residents reported feeling less influenced by the behaviour of supervisors due to their self-confidence, stemming from their awareness of their own competence and the assurance that they could not simply be removed from residency (Figure 6).

Finally, observing positive behaviour led to reinforcement of residents' professional values. However, observing unprofessional behaviour also resulted in a greater appreciation for

their values, as such behaviours made residents more aware of the importance of these aspects in their own work. In summary, the residents' observations indicated that supervisors' negative and positive behaviour influenced both the behaviour and professional values of the residents, leading to reinforcement and changes in professional values and behaviours.

Observed Behaviour Most residents mentioned observing professional behaviour in supervisors regarding the themes of collegiality and involvement, which inspired them (Figure 6). According to the residents, observing positive behaviour had a positive impact on their own working methods, interactions with colleagues and patients, and professional development. Additionally, residents indicated that they perceived behaviour related to work-life balance and hierarchy more negatively, as the behaviours observed in supervisors conflicted with their own professional values. Residents mentioned more negative than positive behaviours, which suggests the greater impact of negative behaviours. These results highlight the importance of interpersonal behaviours of supervisors on residents' professional development.

In summary, most residents' observations indicate that supervisors' behaviour has both positive and negative influences on their professional values and behaviour, with more observation related to interpersonal skills than to technical skills. Notably, the negative observations, amplified by external factors, sometimes led to dissonance between residents' behaviour and values with negative consequences for residents. In contrast, positive behaviour of supervisors led to inspiration and motivation for residents. Additionally, the observations reinforced the values of residents, which can impact dissonance or contribute to the professional development of residents. Concluding, supervisors' behaviour influenced residents' professional values and behaviours, in both a positive and negative way.

Figure 6

Summary of Results: The Influence of Supervisors' Behaviour

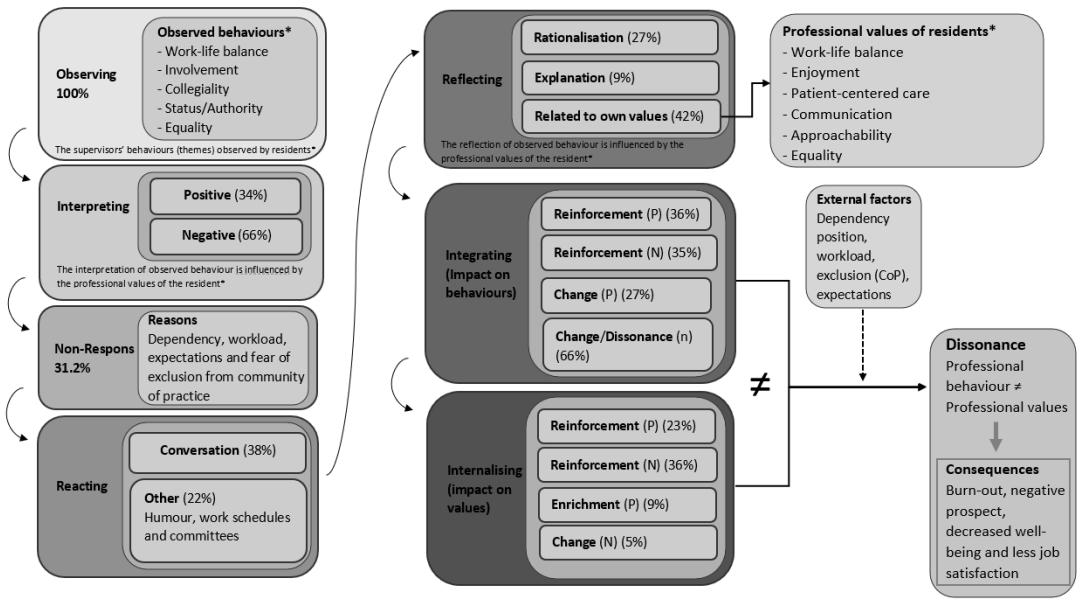


Table 4

The Influence of Supervisors' Behaviour in Taxonomy Levels

Level of Taxonomy	**Percentage of Observations**	**Number of Residents (*n*)**
Observing	100%	11
Interpreting	100%	11
Positive	34%	10
Negative	66%	10
Non-Response	31%	8
Reacting	60%	10
Conversation	38%	8
Other	22%	8
Reflecting		
Rationalisation	27%	7
Explanation	9%	7
Comparing	43%	10
Integrating		
Reinforcement (p)	36%	10
Reinforcement (n)	35%	11
Change (p)	27%	6
Change (n)	66%	10
Internalising		
Reinforcement (p)	23%	7
Reinforcement (n)	36%	9
Enrichment (p)	9%	3
Change (n)	5%	4

5. Discussion and Conclusion

In this final section, the results will be discussed based on the themes from the results section, answering the research question: *'How does supervisors' behaviour influence the professional values and behaviours of residents?'* Furthermore, implications, limitations, suggestions for future research, and finally, a conclusion will be presented.

5.1 Interpretations

5.1.1 Professional values

The current study makes a valuable contribution to the literature on the professional values of residents, addressing the sub-question: '*What professional values do residents hold, and what is the origin of these values?*' The findings reveal that values such as 'collegiality', 'transparency', 'patient-centeredness', and the pursuit of 'a good work-life balance' are important for residents in their work. While previous studies have discussed general values identified by professional organisations and patients as essential for physicians, such as 'expertise', 'integrity', and 'honesty', research on individual professional values of residents was lacking (KNMG, 2023; Van Mook et al., 2007). The results of the current study indicate that the general values of physicians differ from the professional values that residents themselves consider most important. The general values of physicians that are described in previous studies are related to the ethical aspects and technical skills of physicians, while the individual professional values of residents are more related to the interpersonal and contextual aspects of physicians' work. This shows that residents value interpersonal relationships and well-being in the workplace, which may be explained by generational differences and changes in healthcare, where autonomy, work-life balance, patient-centeredness, and collaboration are becoming increasingly important (Gijtenbeek et al., 2023; Hammelburg et al., 2014; Humphries et al., 2018; KNMG, 2023). The new findings contribute to the current literature by providing insight into what residents specifically consider important in their work, suggesting that these future physicians have different workplace expectations, a need for change in work culture, and evolving priorities in their professional roles.

According to this study, the origins of these professional values primarily lie in the work and residency experiences of residents, combined with personal values. This highlights the importance of socialisation within the work environment for the formation of values, aligning with the literature on the general development of professional values (Gassas et al., 2022; Kenny et al., 2003; Moyo et al., 2016). The results of this study imply that the workplace serves

as an environment where values are formed and reinforced through social interaction, which corresponds with previous literature on value development. Supervisors play a crucial role in this process, as they embody the values of the community, emphasising the importance of their behaviour on the professional value development of residents.

5.1.2 Taxonomy of Processing Observed Behaviour

To answer the sub-questions, '*How does supervisors' behaviour influence the professional values of residents?*' and '*How does supervisors' behaviour influence the professional behaviours of residents?*' the created taxonomy was used to illustrate the influence of supervisors' behaviour. This showed that supervisors' behaviour influenced the residents' professional values and behaviour, where residents mentioned more adjustments in their behaviours than on their professional values after observing supervisors' behaviours (Sagiv et al., 2017). These findings align with literature suggesting that values typically possess a stable character, while behaviour is more flexible and thus easier to adjust to supervisors' behaviour (Ashforth et al., 2008; Bergman, 1998; Rokeach, 1973). This supports the design of the taxonomy, which presented the influence on behaviour as a separate and lower level than the influence on values. This demonstrates that behavioural adjustment often occurs without leading to a change in professional values, which is relevant for studies on medical education.

The behaviours that influenced residents were both professional and unprofessional behaviour, which occurred through two different processes. Supervisors that showed professional behaviour, impacted residents positively by having an inspiring and formative influence. They served as role models, prompting residents to integrate these behaviours into their own practices. This process of behavioural integration can enhance the development of professional behaviours among residents. Additionally, the demonstration of professional behaviours reinforced residents' values by showing its importance in their work practice. This aligns with previous literature on professional identity, which emphasises that behaviours of role models are important in the identity formation of residents (Ashforth et al., 2008; Cruess et al., 2014; Monrouxe, 2009).

Conversely, the findings also reveal the negative impact of unprofessional behaviour by supervisors, such as lower job satisfaction and less enjoyment at work, which is consistent with prior findings on the effects of unprofessional behaviour in healthcare (Papadakis et al., 2008). Moreover, observing supervisors' unprofessional behaviour can create dissonance between the professional values and behaviours of residents, which may negatively affect the well-being, job satisfaction and future prospects of residents, especially when residents permanently

integrate such unprofessional behaviours into their work (Ashforth et al., 2008; Rees & Monrouxe, 2018). The results of the current study align with the literature, as it described that the dissonance between behaviour and identity can lead to various consequences, including emotional strain, burnout symptoms, reduced job satisfaction (Ashforth et al., 2008). This shows the impact of supervisors' behaviour on residents' professional values and behaviours, including profound negative consequences.

These results revealed that supervisors' professional behaviours led to positive change of residents' behaviours and values. However, the negative influence of supervisors resulted in negative changes of residents' behaviour, but notably in positive reinforcement of values. This led to dissonance that resulted in negative consequences for residents. This shows the complexity of the influence of supervisors on residents' professional development and its broader impact on residents.

The dissonance was mentioned by many residents. They stated that their values primarily reinforced while they their behaviour changed, which created conflict. As discussed in the theoretical framework, dissonance has previously been explored in the literature between professional identity and behaviour (Ashforth et al., 2008). Identity was described as primarily stable with behaviour as outcome instead of an aspect, which showed that behaviours can conflict with identity. Despite the focus on professional values in the current study, similar patterns are found in the results. This reveals that dissonance also occurs between behaviour and professional values, providing explanation for behaviours that physicians demonstrate that misalign with their values. Moreover, it explains differences in the influence of supervisors' behaviour on values and behaviours, where behaviours are less stable and easier influenced.

This study also revealed external factors that strengthened the adoption of supervisors' negative behaviours, making residents more likely to adopt these behaviours resulting in dissonance. The factors residents mentioned were high workload, fear of exclusion, expectations from supervisors and their dependent position. These findings align with the literature on Communities of Practice, in which new members must know and adhere to the norms and values of the group in order to be considered full members (Cruess et al., 2015; Wenger, 2006). While previous research on Communities of Practice and residents focused on professional identity, the findings of this study showed comparable dynamics for professional values and behaviours, as these are also affected by the social structure of the community. This confirms the impact of members of the community, such as supervisors, on residents´ behaviour and the extent to which residents can act in accordance with their professional values (Sagiv et al., 2017).

Both results of this study and the literature indicate that the experience of dissonance, along with the associated negative outcomes, generate a need for change. Residents mentioned the desire to change their behaviour in the future to realign it with their professional values (behavioural adaptation). Additionally, another resident showed conflicted behaviour but mentioned that the professional value became less important as this resident experienced that external factors that impacted this behaviour would not change (value adaptation). The literature described that professional identity and behaviour can be realigned through behavioural change or identity change (Ashforth et al., 2008). This adjustment can occur through self-reflection, awareness, and role negotiation. Similar processes are observable in the results of this study, despite the focus on values. However, the results of this study related to behavioural adaptation raises the question of whether the intention for behavioural change will indeed be realised in the future or whether prolonged exposure to dissonant behaviour may lead to lasting changes in residents' professional values. This question raised from residents' descriptions that external factors that affect dissonance have remained unchanged throughout their careers, which could hinder behavioural adaptation. However, there is a lack of concrete evidence on value and behavioural adaptation by residents and its occurrence later in the careers of residents.

This research explored new findings, as no prior studies have shown that supervisors' influence residents' professional values and behaviours, that dissonance can occur between professional values and behaviours, the external factors that influence this dissonance, and its negative consequences (Sagiv et al., 201; Ashforth et al., 2008). Remarkable in these findings is that residents that demonstrate dissonant behaviour do not consider this behaviour as part of their professional values and identity, which shows that in these cases residents attribute their choice for their behaviour to supervisors' behaviour and external factors. This reveals that the influence of these behaviours and factors can have more impact on residents' behaviours than their own professional values and identity, which emphasises the importance of supervisors in the professional development of residents.

5.1.3 Observed behaviour

This study provides valuable insights into the kinds of behaviours that residents observed of supervisors that influenced residents' behaviours and professional values. Firstly, the results show that residents mentioned more behaviours that they interpreted as negative than positive, which suggests that negative behaviours may be more noticeable or remarkable than positive behaviours (Cuesta-Briand et al., 2014). Regarding the behaviours residents observed,

the results show they observed primarily behaviours related to involvement, work-life balance, collegiality, hierarchy and equality. These results confirm that residents experience the influence of supervisors' behaviours on interpersonal behaviours, professionalism and work ethics, in addition to medical knowledge and technical skills. This aligns with previous findings on professional identity, which highlight the influence of role models on identity formation and professional behaviour (Beijaard et al., 2004).

The results also show that residents find themselves in a dependency position relative to their supervisors. This dependence can have negative effects on the actions and communication of residents, as they sometimes felt inhibited from providing feedback or discussing issues with their supervisors. Consequently, residents may not always fully express their own professional values. The literature emphasises the importance of good working relationships for the professional growth of residents, but this study suggests that hierarchy and dependence may sometimes hinder these relationships (Cruess et al., 2015; Slay & Smith, 2011). This highlights the need for an open work culture in which residents feel free to communicate honestly without fear of negative consequences. A notable result is that two residents indicated they felt less influenced by their supervisors as they are confident and aware of their own competencies and the knowledge that they will not be dismissed from the residency programme. This may relate to the literature on professional identity, which describes that characteristics of individuals might affect the impact of external factors on their professional identity (Beijaard et al., 2004; Crocetti et al., 2014; Slay & Smith, 2010). Although this study is too small to draw firm conclusions, and there is a lack of specific research on these characteristics, it highlights the need for further research into the role of specific characteristics of residents play in the extent to which supervisors' behaviour influences their own behaviour and professional values.

5.2 Implications

5.2.1 Practical Implications

Awareness of Role Models Supervisors play a crucial role in the professional development of residents as shown by the results of this study. Supervisors' behaviour primarily led to reinforcement of values and professional behaviour, and behavioural change. By being aware of their role as role models, they can reduce unprofessional behaviour and create a positive learning environment (Cruess et al., 2008; Tagawa, 2016). This can be achieved through specific training that encourages supervisors to reflect on their behaviours and their influence on residents (Cruess et al., 2008). In these training sessions, residents and supervisors

(both formal and general) reflect on real-life cases related to supervisors' behaviour based on experiences of residents and supervisors. They examine the impact of supervisors' behaviour, aiming to increase awareness of the effects of role model behaviour. Training that focuses on role model behaviour and the effects of such behaviour, both positive and negative, can make supervisors more inclined to demonstrate professional behaviours, which can have a positive impact on the behaviour and professional values of residents (Cruess et al., 2008).

Currently during residency, residents complete an anonymous annual evaluation form about their formal supervisor. The information of these forms (anonymised), together with cases/experiences that supervisors and residents submit prior to the training (also about their general supervisors), are the foundation of the cases discussed during the sessions. Additionally, the training host, a learning and development specialist, presents additional fictional cases depicting more sensitive yet realistic situations. Adding the sensitive situations that can occur during residency is important because residents have indicated that they do not feel entirely comfortable being open about their experiences due to their dependent position. During the training, the cases will be evaluated by using the created taxonomy.

In practice, these sessions are held once a year with a group of 10 supervisors and 10 residents per session of different specialities. Each resident is paired with a supervisor from a different speciality. This reduces residents' sense of dependency, fostering more honest and open feedback and experiences. During these sessions, the host first presents the situation, followed by residents and supervisors answering the following questions based on the taxonomy of processing observed behaviours (Borton, 1970; Gibbs, 1988):

1. What is happening in the described situation?
2. Answer the question of the taxonomy individually:
    - Resident: Fill out the taxonomy like if you were in that situation (Appendix, Form 1).
    - Supervisor: Fill out the taxonomy like how you think a resident would respond in the mentioned situation (Appendix, Form 1).
3. Compare your answers with those of your supervisor/resident. What are the similarities? What are the differences? What was the impact of the behaviour? How will you apply this to your own work/practices?
4. Every case ends with a plenary discussion where the answers of step three are discussed.

These implications contribute to medical education, as hospital supervisors currently receive training in didactic skills and the use of assessment tools, however, advanced training

is not part of the standard programme (FMS, z.d.). Improvement of this training is not only important for the individual development of residents but also for improving the overall quality of medical care.

Reflection Sessions and Professional Values As the results demonstrated, professional values and behaviours impact one's perspective on work, job satisfaction and professional prospects. To increase awareness of professional values, behaviour, and influences, and to enhance professional development, reflection tools such as an online framework for residents can be used (Jayatilleke & Mackie, 2012). In this framework, residents are asked about their professional values, the origin of these values, how visible these values are in their work, the influence of supervisors on these values, and which values they wish to have as future physicians. Additionally, they reflect on how they wish to continue embodying these values in their work (Appendix 7, form 2). Residents complete the framework every six months to become aware of their values and the influences on them. Residents complete a card-sorting task prior to the framework which helps them select values. This approach provides residents with insight into their professional values and the influence of external factors, which can foster discussing values and ambitions and can positively impacts professional development and shapes professional identity (Cruess et al., 2015). Hospitals also gain insight into what their physicians (and different specialities as CoPs) consider important in their (future) work and how that aligns with the current work environment and culture of the hospital, which is valuable for the organisation of the (future) work and work environment.

In addition, integrating reflection moments with residents and supervisors focused on professional values and behaviour provides insight into their professional development. Currently, feedback sessions between supervisors and residents are primarily focused on technical skills (FMS, n.d.). Reflecting on professional values and behaviour based on the completed forms can be implemented in existing feedback sessions, such as progress meetings. Discussing these results provides both the supervisor and residents with clarity on what is important for residents in their work, how this is expressed, what influences it, and how the resident envisions the future. These moments, where residents talk about and reflect on their professional values, can contribute to the development of professional values and behaviours while fostering a culture of open communication and feedback (Hofstede, 2000; Knafo & Schwartz, 2001; Williams, 2018). An open culture, where feedback can be given and received without fear of negative consequences, is essential for encouraging professional behaviours and reducing unprofessional behaviour (Chen et al., 2017; Gerben et al., 1973; van der Wal et al., 2016). Additionally, reflection helps to address the dissonance between values and behaviour,

thereby reducing the negative consequences associated with such dissonance (Ashforth et al., 2008).

Equality and Approachability According to the results of this study, the dependency relationship between supervisors and residents can hinder open communication. It is important for supervisors to be aware of this dynamic and to make an effort to create an equal and open working environment, which can be taught through education for supervisors (Sutherland et al., 2021). These training programs contain workshops on open communication, constructive feedback, psychological safety and power dynamics. It contains situations of recognising these hierarchical dynamics and how to manage these situations, learning techniques for open communication such as 'a check in on how the resident feels and experiences the guidance' at the start of a shift and asking for opinions during patient cases, and on constructive feedback that focuses on 'positive reinforcement' (Awar et al., 2013). Additionally, supervisors can be taught how they can foster an open culture by showing their own insecurities and stimulating others to do the same, facilitating physical proximity by being physical approachable for residents and facilitating psychological proximity by mentioning that the supervisors is always available for questions (Bus et al., 2022). These trainings will be given to the whole department, as this culture is primarily important within this Community of Practice (specialism department).

The management of hospitals can also foster an equal work environment by promoting a psychological safe work environment and monitoring the culture by surveys (Awar et al., 2013). Management can also establish interprofessional team meetings where participants step into one another's professional roles and engage in discussions, with the ethics department ensuring that everyone's voice is heard (Bus et al., 2022).

These implications can reduce hierarchical distance and promote a safer learning environment, where residents experience psychological safety, feel freer to express their concerns or address unprofessional behaviour (Gerben et al., 1973; Hardie et al., 2022; van der Wal et al., 2016). By making supervisors aware of their role as role models and training them in the guidance of professional values and behavioural development, the professional development of residents can be positively influenced. Creating an open, equal learning environment and encouraging reflection can not only reduce unprofessional behaviour but also lay the foundation for a generation of physicians who can engage critically and consciously with professional values and behaviour and their influences. This is important not only for the individual development of residents but also for improving the overall quality of medical care.

5.2.2 Theoretical implications

The current study contributes to the scientific literature by revealing that supervisors' behaviour, both positive and negative, influenced the residents' professional values and behaviours, as two different processes. It showed the occurrence of dissonance including its negative consequences and external factors that strengthened this dissonance. This adds to previous research, which focused on the professional identity of residents, and expands the understanding of the impact of supervisors on residents' professional development (Ashforth et al., 2008; Poorchangizi et al., 2017). These results also raise questions about the factors that influence behaviour choice of residents, which can contribute to research on medical professional development, medical education and mentoring.

Considering the new findings on professional values and behaviour, this study contributes to the existing literature by providing new insights into the specific professional values of residents. This contrasts with previous research, which primarily focused on the general professional values of the medical profession (KNMG, 2023; Van Mook et al., 2007). These insights help to understand what future physicians consider important, where these values originate, how they impact their work, and the influence of supervisors on these values. Additionally, this study highlights the different forms of impact that both positively and negatively perceived behaviours have on residents, offering a contribution and a more comprehensive approach within the existing literature on role models and workplace learning (Cruess et al., 2008; Kenny et al., 2003). This confirms the power of observing behaviour as an educational instrument. Furthermore, the types of behaviours observed in supervisors contribute to the existing literature. This study demonstrates that residents primarily observed behaviour related to interpersonal skills, professionalism, and work ethics, whereas previous research mainly emphasised the role of supervisors in teaching technical skills.

In addition, a taxonomy has been developed that presents a framework to analyse the influence of observed supervisor behaviour on residents. This taxonomy provides a comprehensive representation of the various stages of behavioural influence. It additionally explored behaviours of supervisors that impact residents in their work, which contributes to research on the role models by proving context to their impact. The model combines insights from scientific literature, including professional values, behaviour, and professional identity and reflection models, which created a new approach including not only behaviour but also professional values (Borton, 2016; Gibbs, 1988). This provides a broader framework for understanding the impact of supervision in medical education and serves as a starting point for research on influence of supervisors' behaviour on professional values and behaviours within

other contexts. Additionally, this research is a starting point for research within other contexts on how supervision influence team dynamics, personal growth, and alignment with community values.

5.3 Limitations

This study provides in-depth insights into the influence of supervisors' behaviour on the professional values and behaviours of residents, but it has some limitations that will be discussed in this section. Firstly, the study was conducted in just one teaching hospital, which could compromise the generalisability of the results to for instance University hospitals. Regional hospitals are often smaller than academic hospitals and typically focus on a wider variety of treatments (Nuti et al., 2016). These different kinds of hospitals can have different work cultures, as described by the literature, which can affect behaviours and interactions of physicians and its impact on residents (Braithwaite et al., 2017; Mannion & Davies, 2018). For example, a more hierarchical work culture can result in other behaviours, work dynamics and interactions between residents and supervisors compared to a more equal or collaborative work environment. These differences between hospitals can affect the generalizability of the results, as factors such as work culture can lead to variations in results across different hospitals (Braithwaite et al., 2017; Mannion & Davies, 2018). While the results may be applicable to other STZ hospitals, caution is warranted when generalising to academic hospitals and other healthcare contexts. However, the results of the current study are a good starting point for further research across diverse hospitals.

An additional limitation is the sample size and composition. Despite efforts to involve all specialties to gain a broad perspective, the sample primarily consists of residents in non-surgical specialties. This can create a limited understanding of the influence of supervisors' behaviour on residents, as insights of more residents from different specialities could create deeper understanding (Mulder et al., 2023). Nevertheless, within the sample, a point of saturation was reached, allowing the current research to provide valuable insights into the experiences and perspectives of residents. However, future research could achieve a more detailed understanding of the influence of supervisors' behaviour by investigating a larger and more diverse sample.

Finally, the trust between residents and the researcher is an important factor in the data collection. Although methodological choices, such as the use of card-sorting tasks and interview techniques aimed at building trust between the residents and the researcher, likely contributed to deeper insights, the risk of socially desirable responses remains (Rubin & Rubin, 2005;

Scribbr, z.d.). Residents find themselves in a dependent position relative to their supervisors and may feel inhibited from being completely open about their professional values and behaviours, which might have constrained the information that residents shared. This might have affected both the process of data collection and the richness of the results. Additionally, the sensitivity of the data led to anonymization of the results what also affected the details of the data that could be described in this study. This sensitivity created a balance between ensuring confidentiality and obtaining fully honest, unfiltered insights and led to limited use of quotations. Despite attempts to mitigate this risk by ensuring confidentiality and anonymity, as well as employing conversational techniques to promote openness, bias remains a point of concern.

5.4 Suggestions for further research

This study has examined the influence of supervisors' behaviour on the professional values and behaviours of residents. Through the valuable insights that are gained by this study, opportunities for further research emerged that could lead to a deeper understanding of these processes. One suggestion for future research is to focus on why some residents maintain their own values and behaviours while others adjust these values to align with their supervisors (Ashforth et al., 2008). Factors such as self-reflection, beliefs, and the degree of identification with the profession may play a role in this process. Additionally, the concept of ‘dissonance’ could be further investigated to enhance understanding of the impact of this dissonance on the professional development of physicians, thereby contributing to the improvement of medical (residency) training programmes (Ashforth et al, 2008; Chechak, 2015).

Another suggestion is research on the impact of the characteristics of both supervisors and residents, and their relationship on the professional development of residents. Literature suggests that this relationship may also influence the extent of behavioural adaptation (Bonini et al., 2024). As indicated in the data, two residents mentioned feeling confident in their abilities, which they believed helped them remain more closely to their own professional values. However, the current study is too small in scale to draw definitive conclusions. This highlights the need for further research, which can create a deeper understanding of the impact of supervisors and factors that influence this impact.

Moreover, longitudinal research could more accurately examine the influence of supervisors on residents' professional development by tracking residents over their residency years and beyond. Studying residents over 8 years, with biannual interviews and ethnographic observations by the researcher that participates in the community, would not only provide

insight into the influence of supervisors on residents' professional development but also reveals how these relationships evolve over time. Additionally, observations would offer deeper insights into workplace culture, social dynamics, and interactions between residents and supervisors, which align the research question (Boele, 2019; Ruspini, 2003). Including interviews with residents after residency could help reduce bias related to the dependency position of residents. Selecting a diverse sample across specialties and institutions would enhance the generalizability of findings.

By exploring these diverse perspectives, the role of supervisors in the professional development of residents can be further clarified, ultimately contributing to the improvement of healthcare and the quality of medical education and training for future physicians.

5.5 Conclusion

This study provides valuable insights into the influence of supervisors' behaviour on the professional values and behaviours of residents, from the residents' perspective. Based on the research question, '*How does supervisors' behaviour influence the professional values and behaviours of residents?*' it can be concluded that, from the residents' perspective, supervisors' behaviour has impact on the professional behaviours and values of residents, where residents more often mentioned reinforcement or change of their behaviours after observing supervisors. The findings revealed that the influence of supervisors' behaviour, amplified by external factors such as residents' dependency position, sometimes resulted in dissonance between residents' professional values and behaviours, which could have negative consequences for residents. These behaviours sometimes had stronger influence on residents' behaviour than their own professional values and identity, which emphasises the power of observing behaviour in residents' professional development. Additionally, this research offered insights into the individual professional values of residents, contributing to understanding the interpretation of behaviours. It can be concluded that residents value an open and equal work culture with patient-centeredness, open communication and more focus on work-life balance, which aligns with the behaviours residents observed.

The results provide valuable information that can help improve medical training programmes to better meet the needs of future physicians and their development as it underscores the importance of supervisors' behaviours and professional values in professional development. Additionally, the developed taxonomy, which helped to better understand the influence of supervisors, can serve as a valuable tool in both the literature and practice to outline

the influence and explore impactful behaviours that affect residents' professional development. By training supervisors in effective role model behaviour, creating opportunities for reflection, and encouraging open communication, both the quality of care and the work environment in healthcare can be improved.

However, this research indicates that some residents, depending on certain characteristics, appear to be less influenced by the behaviour of their supervisors, suggesting that further research is needed. It is important to investigate which specific characteristics of residents and supervisors, as well as their relationship, affect the degree of influence supervisors have on residents' professional development. Overall, this study contributes to a better understanding of the complex influence, both positive and negative, of supervisors' behaviour on the professional values and behaviours of residents and emphasises the power of observing behaviour as an educational instrument, which can sometimes be a stronger influence on behaviour than one's own identity and values. The results support the necessity for improved guidance and a focus on professional values and behaviour within medical education, providing valuable insights that contribute to strengthening professional behaviour and the quality of healthcare for both the present and the future.

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Appendix 1: Pilot study

This guide and scheme were used to structure the values that the researcher gained from the pilot study. The data collected here, was used to create the value cards for the card-sorting task. This made the card-sorting task more representable for the target group.

Pilot Study: Research into the Professional Values of Physicians

Introduction

- Explanation of the study
    - Interest in the perspective of residents on their professional values as a preparation for this study
- Assuring anonymity and confidentiality of collected information

General questions

1. What year of residency are you in? / How long have you been working as a physician?
2. What is your specialty?

Experience from practice

Ask the physician to share specific events or moments from that day when they had to draw upon their professional values. For example:

- Can you share a moment from today?
    - What professional values do you relate to this?
- Was there a moment today when you felt that you acted in accordance with your professional values?
    - If so, can you describe it?

Specific situation

- We reflect on the day. During the consultation, treatment or visitation:
    - How did you act?
    - What underlying values guided this behaviour? / Which professional values did you apply in this situation?
    - What do you consider important in this action? / What significance do you attribute to these values?

- Are there any other situations today where your values have prominently emerged?

General professional values

- What professional values do you have/consider important, in addition to those previously mentioned?
- What other professional values do you hear from/see in your colleagues?

Closure

- Thank the physician for participating.

Date, name resident and context	**Situation**	**Which values do residents relate to this behaviour? Why do they think that this is important?**
Observation 1	Situation	Value
	Situation	Value
Observation 2	Situation	Value
	Situation	Value

Appendix 2: Value list and card-sorting task

Values		Sources
Honesty Justice Trust Privacy Respect for autonomy Non-maleficence		KNMG
Empathy Communication Self-awareness Morel integrity Truthfulness Commitment to professional development Sense of duty Success Efficiency Integrity Respect Solidarity Discipline		Montemurro et al., 2013
Responsibility Competence Expertise Innovation Quality Communication Altruism Empathy Integrity	Professional distance physician-patient Patient-centred care Collaboration/ collegiality Transparency Professionalism Loyalty	Van Mook et al. 2007

Respect	Routine	
Reliability Equality Safety Quality Freedom Expertise Satisfaction Profit/Economic returns A good relationship with the patient. Approachableness Comfort	Patience Dignity Autonomy Justice Compassion Honesty Hard work Kindness Privacy Sympathy Humour Humility Certainly/stability	Shahriari et al., 2013 (values of nurses)
Integrity Responsibility Respect Commitment		Cruess et al., 2015
Tradition Openness Power Security Conformity Benevolence Universalism Self-Direction Stimulation Pleasure/Hedonism Achievement		Schwartz, 2012 (general values)
Authority/power capability/achievement		Moyo et al., 2016 (Values of all healthcare practitioners)

Pleasure Critical-thinking Equality Altruism morality/tradition Professionalism Safety Spirituality		
Work-Life Balance Collegiality/ Collaboration Quality Involvedness Discipline Accuracy Optimism Humour Attentiveness Work enjoyment Job satisfaction Meaningfulness		Pilot study

Appendix 3: Interview guide

Interview guide Residents DZ

This interview guide will be used to interview residents working at Deventer Hospital. The interview guide will help the researcher to structure the interviews.

Introduction

- Welcoming and thanking participants
- Information about interview, recordings and rights
- Short introduction of researcher and participant
- Checking the preparation of the participant, if they read everything and if everything is clear

Part 1: Card-sorting task

- Participants are asked to choose 3-5 cards per category (see appendix 2)
- Explanation of the choices they made will be discussed during the interview

Part 2: The interview

In this part, the chosen values per category will be discussed. Furthermore, interpretation of the values, behaviour of supervisors and the influence on the values and behaviour of residents will be discussed.

Importance and origin values

In the next three parts, the chosen values, looking at the importance and origins, will be discussed.

A: Category 1

1.1 Why did you choose these values in category 1?

1.2 Why do you think these values are important?

1.1.1 Where do these values come from?

1.3 How do you see these values reflected in your work, related to patient care?

B: Category 2

2.1 Why did you choose these values in Category 2?

2.2 Why do these values not fit well with you as a resident?

2.3 How do you see this reflected in your work, related to patient care?

Observation, interpretation and influence on own values and behaviour

In the next two part, the perception of the resident on the supervisors' behaviour will be discussed. What the resident observes, how the resident this interprets and how it influences the residents' values and behaviour, will be discussed.

C: Category 3

4.1 Why did you choose these values under category 4?

4.2 Why do these values align with your supervisor?

4.3 Looking at the values you chose at category 4, what behaviours do you see in the workplace from the supervisor around patient care?

4.4 How do you interpret these behaviours?

4.4.1 What meaning do you give to this behaviour?

4.5 How do you act upon this behaviour?

4.6 How does this affect your own values?

4.7 How does this influence your own behaviour related to patient care?

D: Category 4

5.1 Why did you choose these values for category 5?

5.2 Why do these values not align with your supervisor?

5.3 Looking at the values you chose for category 5, what behaviours do you see in the workplace from the supervisor around patient care?

5.4 How do you interpret these behaviours?

5.5.1 What meaning do you give to this behaviour?

5.5 What do you do when you see this behaviour?

5.6 What influence does this have on your own values?

5.7 What influence does this have on your own behaviour around patient care?

F: Behaviour

This phase involves asking about behaviours of supervisors, what residents have perceived as important, and how they link this to their values, and how this affects their own values and behaviours.

5.1 What behaviours of supervisors, independent of your chosen values, have stuck out to you?

5.2 How do you interpret these behaviours?

5.3 How do you act upon this?

5.4 How does this affect your own values?

5.5 What influence does this have on your own behaviour?

Closure

- The researcher explains that this is the end of the interview and thanks the participant.
- The researcher asks about how the participant experienced the study and possible feedback points.
- The researcher stops the recording and shares information about the follow-up and anonymous processing of the data.

Appendix 4: Codebook

Appendix 5: Frequency Tables of Chosen Values by Residents

Table 1

Descriptive statistics of professional values chosen by residents as suitable (C1)

Value	Chosen by Non-Surgical Department (*n, percentage*)	Chosen by Surgical Department (*n, percentage*)	Total frequence
Competence	2	1	3
Reliability	0	1	1
Patient-centred care	3	1	4
Communication	3	1	4
Collaboration/Collegiality	1	0	1
Appropriate distance between patient and physician	1	0	1
Work-private life balance	3	1	4
Expertise	1	0	1
Clarity	1	0	1
Humor	1	0	1
Enjoyment	3	0	4
Diligence	2	1	3
Satisfaction	2	0	2
Integrity	1	0	1

Equality	1	0	1
Good interaction with colleagues /interns	1	0	1
Taking the time for patients	1	0	1
Quality	1	0	2
Professionalism	1	1	2
Career advancement	1	1	2

Table 2

Descriptive statistics of professional values chosen by residents as non-suitable (C2)

Value	Chosen by Non-Surgical Department	Chosen by Surgical Department	Total frequence
Authority	4	2	6
Prestige	2	1	3
Status/prestige (aanzien)	8	2	10
Competition	4	1	5
Spirituality	1		1
Routine	3	1	3
Assertiveness	2	1	3
Innovation	1	0	1
Appropriate	1	0	1

distance between patient and physician			
Optimism	1	0	1
Excellence	0	0	1

Table 3

Descriptive statistics of professional values chosen by residents as suitable for supervisors (C3)

Value	Chosen by Non-Surgical Department	Chosen by Surgical Department	Total frequence
Respect	0	1	1
Collaboration/Collegiality	0	1	1
Responsibility	2	2	4
Equality	2	0	2
Safety	1	0	1
Involvement	2	0	2
Positive work environment/cosiness	3	0	3
Appreciation	1	0	1
Pleasant work environment	2	1	3
Work-private life balance	1	0	1

Good interaction colleagues/interns	2	0	2
Diligence	1	0	2
Expertise	3	1	4
Taking the time for patients	1	0	1
Career advancement	1	0	1
Authority	1	0	1
Professionalism	1	0	1
Quality	2	0	2
Innovation	1	0	1
Attention	1	0	1
Autonomy	1	0	1
Efficiency	1	0	2
Passion	1	1	3

Table 4

Descriptive statistics of professional values chosen by residents as non-suitable for supervisors (C4)

Value	Chosen by Non-Surgical Department	Chosen by Surgical Department	Total frequence
Work-private life balance	0	2	2
Authority	1	1	2

Competition	3	1	4
Involvement	2	0	2
Salary	1	0	1
Profit	1	0	1
Autonomy	3	1	4
Excellence	2	0	2
Assertiveness	1	0	1
Patience	2	1	3
Transparency	3	0	3
Flexibility	1	0	1
Innovation	1	0	1
Altruism	1	0	1
Efficiency	1	0	1
Openness	1	0	1
Modesty	1	0	1
Taking the time for patients	0	0	1
Recognition	0	1	1
Enjoyment	0	1	1

Appendix 6: Use of Generative Models (AI)

During the writing of this work, Chat-GPT 3.5 and 4.0 were used to correctly translate the quotes of the interviews from Dutch to English and for text refinement purposes. This means that these models were used to rewrite of words and sentences to improve the readability of the text. However, this use was always in collaboration with the researcher, meaning that the outcomes of the models were used as a suggestion. The researched reviewed and edited the content after the tool was used and takes responsibility for the content of the work.

Appendix 7: Practical Implications

Form 1: Awareness of Role Models

Questions for the resident

Imagine that the case being discussed by the host had happened to you. How would you respond to this and how does it affect your own behaviour and professional values?

Phase of Taxonomy	Your experience
Observing What behaviour of the supervisors is described in this case?	
Interpreting How do you interpretate this behaviour? And do you consider that as negative or positive?	
Non-Response Would you respond in this situation?	
Reacting How would you respond in this situation?	
Reflecting How would you reflect on this situation? Comparing it to your own values and behaviour? Trying to explain the behaviour? Or rationalising the behaviour?	
Integrating How would this situation effect your behaviour? Is it reinforced positively, negatively? Is it change and how?	
Internalising How would this situation effect your professional values? Are they reinforced positively, negatively? Did they change/are your values enriched, and how?	

Compare your answers with the answers of the supervisor.

Questions for the supervisor

Imagine that the case being discussed by the host had happened to a resident under your guidance. How do you think that the resident would respond to this and how does it affect this residents' behaviour and professional values?

Phase of Taxonomy	Your experience
Observing What behaviour of the supervisors is described in this case?	
Interpreting How do you interpretate this behaviour? And do you consider that as negative or positive?	
Non-Response Would you respond in this situation?	
Reacting How would you respond in this situation?	
Reflecting How would you reflect on this situation? Comparing it to your own values and behaviour? Trying to explain the behaviour? Or rationalising the behaviour?	
Integrating How would this situation effect your behaviour? Is it reinforced positively, negatively? Is it change and how?	
Internalising How would this situation effect your professional values? Are they reinforced positively, negatively? Did they change/are your values enriched, and how?	

Compare your answers with the answers of the resident.

Form 2: Reflection on Professional Values

Phase 1 'Selecting the Professional Values'

This exercise is used to create insight into your own professional values. Select for every category four values that fit the question best (using an online card-sorting tool).

Category 1: What professional values do you consider important in your work?

Category 2: What professional values do you not consider important in your work?

Category 3: What professional values would you like to have a future physician?

Phase 2 'Questions about the Professional Values'

Answer the following questions about your chosen professional values:

- What is the origin of your professional values? (Heritage, Childhood, Personal Values, Medical Education, Residency, Work)
- How are these professional values visible in your work?
- Did supervisors influence your professional values? And how?
- How do you want to embody the professional values in the future you selected as 'professional values for my future self as physician' in your work?