CONNECTING THE DOTS

Forensic vigilance as a core competency of forensic mental healthcare professionals

Maartje Clercx

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Dit onderzoek is mogelijk gemaakt door:

ROOYSE WISSEL

Radboud University

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Maartje Clercx
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Promotor:
prof. dr. H.C.M. Didden

Copromotor:
dr. M.E. Keulen-de Vos

Manuscriptcommissie:
prof. dr. G.J.M. Hutschemaekers
prof. dr. G.J.J.M. Stams (Universiteit van Amsterdam)
prof. dr. S. Bogaerts (Tilburg University)
dr. R. van der Lem (Fivoor)
dr. T. de Beuf (KU Leuven, België)

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Voor alle forensische ggz professionals die dag in dag uit hun leven wijden aan het veilig houden van onze samenleving, werken met en zich inzetten voor de bijzondere en complexe doelgroep van forensische psychiatrische patiënten.

Harry was a highly unusual boy in many ways.
(J.K. Rowling, *Harry Potter and the Prisoner of Azkaban*)


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CHAPTER 1

General introduction

In many parts of the world, those who have committed a crime (partially) due to the presence of a mental disorder are viewed as a distinct group, and are treated rather than incarcerated (Arboleda-Florez, 2006; McIntosh et al., 2021; Papalia et al., 2019). Institutions providing forensic mental healthcare are generally more successful in reducing recidivism risk than penitentiary institutions (e.g., prisons) that do not offer treatment (Fazel et al., 2016; McIntosh et al., 2021; Wartna et al., 2006). In the Netherlands, the movement to separate those with mental disorders from "healthy" prisoners started with the Introduction of the Criminal Law (*Wetboek van Strafrecht*) in 1886. It stated that someone suffering from a "deficit in development or sickly disorder" could not be punished for their crimes. Those found to be non compos mentis (not held accountable) due to criminal insanity would be sent to a psychiatric institution instead of a prison. In 1928, the law also allowed for one to be judged partially responsible for their crime, rather than being fully mentally competent or fully criminally insane. Under this law, criminals would serve prison time for the part of their crime of which they were held responsible. For the part of the crime they committed due to diminished sanity, criminals were admitted to a psychiatric institution (de Boer & Gerrits, 2007). This regulation "*terbeschikkingstelling van de regering*" (TBR, now converted into TBS), or "placed at the disposition of the government" (Bernstein et al., 2021; De Boer & Gerrits, 2007) could be renewed every two years if the patient was still considered a threat to society. Initially, these psychiatric institutions did not offer much in terms of treatment and mainly ensured "dangerous" psychiatric patients remained locked away from society. This changed after World War II, when more psychiatric and psychological treatments would be offered to patients. On the basis thereof, the Netherlands developed a wealth of experience in forensic psychiatric treatment, including treatment of those most at risk to reoffend in high-secure forensic hospitals (de Boer & Gerrits, 2007).

The field of forensic mental healthcare is a complex and unique work environment for professionals. Compared to penitentiary settings where most professionals are solely agents of power, professionals in forensic mental health settings are also a provider of care and treatment. This duality of roles also forms the base of many ethical dilemmas (O'Dowd et al., 2022; Keulen-de Vos & de Vogel, 2022; Marshall & Adams, 2018). Compared to civil (e.g., non-forensic) mental healthcare, the focus on risk, including the possibility of unlawful behavior, and how to diminish this forms the main difference. In civil mental healthcare the main aims are the reduction of symptoms of the mental disorder and to increase self-empowerment, experienced well-being and quality of life. Treatment or intervention is often shaped around the patient's own goals (Van Os et al., 2019). The main goal is to reduce the risk of recidivism and the main guiding principles underlying forensic mental healthcare are the Risk-Needs-Responsivity principles (Andrews & Bonta, 2017). These dictate that the most resources should be devoted to those posing the highest risk (Risk-principle), that treatment should be focused at decreasing criminogenic needs or dynamic risk factors (Need-principle), and that treatment should be adapted to the learning style of the patient (Responsivity principle). The uniqueness of the field of forensic mental health may require a unique set of skills in professionals.

In the Netherlands, the term "*forensische scherpte*" is used to indicate a specialistic skill needed by professionals working in forensic mental healthcare settings. The term is frequently used in the Netherlands: a quick Google search results in more than 3000 hits spreading over 10 pages. The term is used, for example, to describe how one should work in the field of forensic mental health, and is often included in job descriptions and training programs for professionals. However, the term is also frequently used in official incident investigations or reports on the state of affairs in the Dutch forensic mental healthcare (see for example *Inspectie Justitie en Veiligheid*, 2018; Andersson Elffers Felix [AEF], 2018; *Onderzoeksraad voor Veiligheid*, 2019). The Dutch term "*forensische scherpte*" would literally translate into the English phrase "forensic sharpness". Literal translation, however, does not entirely convey the meaning intended with the Dutch term, which encloses elements of attention (to one's surroundings), watchfulness and awareness of (possible) threat or escalation of the situation into danger. In consultation with several international experts in the field of forensic mental health, we opted, after consideration of options such as "forensic acumen" and "forensic attitude", to translate the term as "forensic vigilance". The term forensic vigilance will be used throughout the remainder of this dissertation.

The exact origins of the term forensic vigilance are unclear, though former forensic healthcare director and forensic advisor Poelmann claims in his blog on the discussion platform Discura (2019) that it was instated in 2010 by the Correctional Institutions Service (*Dienst Justitiële Inrichtingen, DJI*), the service responsible for penitentiary institutions, juvenile detention centers and forensic psychiatric centers and clinics. It is clear that the term does not appear before that in the currently used terminology. In 2009 for example reports from the *Inspectie voor de Sanctietoepassing* (Inspection for Application of Sanctions) mention in one of their conclusions that "continued awareness (*scherpte*) of possible risks while granting leave could be strengthened", but did not name this "*forensische scherpte*". After 2010 the term is used more frequently, though still fragmented, for example in inspection reports (*Inspectie Veiligheid en Justitie*, 2012).

The term gained momentum after several tragic events in the Dutch forensic mental healthcare system, most importantly the case of Michael P. In September 2017, a young woman named Anne Faber went missing while cycling, which was covered extensively by the media. The agitation and outrage from the public and the media storm increased further when it was announced that Anne's body was found and that she had been violently raped and murdered by a patient (Michael P.) of a nearby medium-secure forensic psychiatric hospital while on unsupervised leave. Michael P. had been detained and was undergoing treatment for the violent rape of two underaged girls. The incident involving Anne Faber was investigated by the *Onderzoeksraad voor de Veiligheid* (Research Council for Safety; 2019). One of the main conclusions from the report was that the staff of the forensic hospital had been lacking in forensic vigilance and had focused too much on their caregiver role instead of balancing both caregiver and agent of power roles. They noted, for example, that the treatment ward of the prison where he previously

stayed did not enter Michael P. in a specialized program for persons who had committed a sex offence and who had been convicted of a long-term sentence, despite fulfilling both criteria. The report also notes that the forensic psychiatric hospital where Michael P. was staying did not include his sexual offense history in the treatment plan, nor did they formally assess the risk of sexual recidivism with a specialistic risk assessment instrument. They furthermore allowed him unsupervised leave early on in treatment and with quick increments in freedom because this was standard procedure rather than the result of a substantive consideration of the case. When Michael P. had started a relationship with a fellow patient, this was considered worrisome by the treatment team, however (apparently) no reflection of this development given his past was made. The Inspection Services of Justice and Safety, and of Healthcare and Youths (*Inspectie Justitie en Veiligheid* and *Inspectie Gezondheidszorg en Jeugd*, 2019) also conducted investigations into this case, and also concluded (amongst others) that insufficient attention had been given to specific risk factors (e.g., history of, and risk of sexual offending) and that risks to society had not been given appropriate weight in the decision to permit unsupervised leave. On the base of both reports, during a debate with the House of Representatives, the Minister of Justice at the time stated that "forensic vigilance and other fail safes in the system were amiss" (Dekker, 2019). In a follow-up investigation of the institution Michael P. stayed at the time of the incident which mainly scrutinized their proposed improvement plan, the Inspection of Justice and Safety concluded that "forensic vigilance has been increased" but also that it is important to "keep forensic vigilance under the attention of professionals".

In 2020, the escape of two extremely high-risk (of both violence and escape/withdrawal from supervision) forensic psychiatric patients who held a staff member hostage was investigated by Inspection services as well. Both were patients of a specialistic high-security ward due to their high-risk status. During their escape they threatened the staff member with a knife and a flare gun, which looked like a regular firearm, smuggled in previously by the partner of one of the two in an item of her clothing. After their escape they were pursued by the police, which led to a confrontation during which one of the two was shot by police and died. One of the main conclusions of this report was that the team working on the high-secure ward was not the highly specialized and skilled team they ought to be, as they were often supplemented with staff members from other (e.g., non-specialistic) wards or temporary workers. According to the investigators, this led to "diminished expression of forensic vigilance and a lack of risk factor oriented action". They furthermore stated that staff members working at the check-in and surveillance of visitors could have been expected to "exhibit forensic vigilance with regards to visitors they permitted entrance to the hospital" (*Inspectie Justitie en Veiligheid*, 2020).

Since the mid 2010's but especially since the case of Michael P., the use of the term forensic vigilance is widespread in the Netherlands, including in job postings, interviews with healthcare professionals (for example Weeda, 2019), official reports by Inspection services (*Inspectie Justitie en Veiligheid*, 2018; 2019; 2020) and other (semi-)government agencies (*Onderzoeksraad voor de Veiligheid*, 2019) and most importantly in daily practice

among professionals. Despite the widespread use the term lacked a clear definition. In fact, the descriptions of the term "*forensische scherpte*" were as widespread as its use. For example, in a report published by the Dutch Inspection of Safety and Justice in 2017 its authors make a number of recommendations regarding what they refer to as "forensic vigilance". These include recommendations about the lines of sight through windows of adjoining rooms, about cameras installed and what these cameras should capture, urine testing and a recommendation to make a policy about how individual contact between a staff member and a patient should be structured (Inspection of Safety and Justice, 2017). The research bureau Andersson Elffers Felix describes forensic vigilance as "the observation of risks in the behavior of patients, which is followed by swift, adequate intervention" (AEF, 2018, p.11). In the incident report about the case of Michael P. forensic vigilance is described as "identifying, keeping an eye on and controlling for risks connected to offenders" (Utrecht Centre for Accountability and Liability Law, 2019). In an investigation of forensic hospital De Woenselse Poort, the Inspection of Justice and Safety describe forensic vigilance as "an awareness in professionals that they work with individuals with a criminal background, which should be known and recognized to estimate the risk of recidivism" (*Inspectie Justitie en Veiligheid*, 2018, p. 6). These authors furthermore state that the institution had taken measures to increase knowledge about forensic mental healthcare "and thereby increased forensic vigilance" (p. 23). Furthermore, on the professional discussion platform several authors give different descriptions of forensic vigilance. From "risk assessment in penitentiary institutions" (Klazes, 2019), and "we use forensic vigilance to estimate if a patient after conviction still poses danger to society" (Meynen, 2019), "nothing more and nothing less than continuous alertness of risks patients present with and to handle accordingly" (van Ewijk. 2019) to "something that relates to attitude and 'a sharp mind': acumen, accuracy, fierceness and shrewdness; these cannot be captured in regulations, checklists and monitoring systems, but in human qualities that can be learned and trained" (Poelmann, 2019). Finally in a report by Van der Wolf et al. (2020), forensic vigilance is referred to as something that is "missed by treatment professionals". However, the authors note this in a paragraph that mainly discussed sharing of information between forensic care providers. In fact, the explanations were so numerous that in an editorial piece by Hummelen (2019) it is stated in a footnote that though the term forensic vigilance is often used to indicate "awareness of risk", the author refrained from using that term in his editorial piece due to "it's lack of specificity". Though all individual descriptions certainly showed similarity, they were not the same, and would sometimes include completely different elements. Attempts have been made to pose a definition, for example by Folkert Helmus on his LinkedIn page (n.d.), and Tom Deenen and Rob Ziel in their presentation for the *Festival Forensische Zorg* (Festival of Forensic Care; 2012), but none presented were based on empirical data, nor were they widely accepted or used.

The lack of a definition is a barrier in many ways. First, in communication. As also becomes clear from the range in explanations given by different authors, the lack of a clear definition gives way to a situation where parties are not talking about the same construct, or they cannot be sure whether they discuss the same issue. Furthermore, the lack of a clear definition also hinders measurement, further research and theory building. Before a construct can be measured reliably, research should be conducted on defining the construct and the theories surrounding it. Despite the ambiguity of the term, authors or agencies would draw conclusions about the presence of forensic vigilance in a given situation. This mostly entailed incident reports (for example in the case of Michael P., *Onderzoeksraad voor de Veiligheid*, 2019; in forensic psychiatric center De Rooyse Wissel, Inspection of Safety and Justice, 2017; forensic psychiatric center de Kijvelanden, *Inspectie Justitite en Veiligheid*, 2020), but would also include reports about the state of affairs in forensic mental healthcare in general (for example AEF, 2018). In an advisory report about the acquisition of forensic mental healthcare, it was concluded that new parties on the market are lacking in forensic vigilance, which entails "the risk of damage to the public image of forensic mental healthcare" (Significant Synergy, 2021). Furthermore, forensic mental health institutions would post job openings describing the ideal candidate would possess forensic vigilance and compose training programs in forensic vigilance. On the basis of the weight given to forensic vigilance in the field of forensic mental health, the importance of research to enhance clarity and more knowledge of the construct of forensic vigilance was evident. These encompassed the aims of this thesis, which are detailed below.

Thesis aims and outline

Part 1 – Defining and measuring forensic vigilance

This thesis aimed to increase knowledge of the seemingly important construct of forensic vigilance. The first aim was to decrease the ambiguity surrounding the construct of forensic vigilance by defining the construct and identifying aspects thereof. A second aim was to develop a reliable instrument to capture forensic vigilance in professionals. A clearly delineated construct and reliable measurement are the first steps towards and indispensable in further research. These steps formed the basis of the first two research questions investigated in this thesis:

1. What is forensic vigilance, what are aspects thereof and how important is this construct to professionals (**Chapter 2**)?
2. Can forensic vigilance be reliably measured in professionals (**Chapter 3**)?

Part II – Attributes of professionals and the workplace and their relationship to forensic vigilance

Although the term forensic vigilance was seemingly first introduced in relation to serious incidents, we hypothesized the construct to be related to individual differences between professionals, and how capable professionals feel in their work. In some of the incident reports a connection between forensic vigilance and work experience was observed (for

example *Inspectie Justitie en Veiligheid*, 2020). We therefore investigated whether forensic vigilance was related to work experience. Furthermore, certain personality traits may be positively linked to forensic vigilance. In the Big Five model of personality states there are five dimensions of personality functioning: Neuroticism, Extraversion, Openness to experience, Agreeableness and Conscientiousness (Pérez-Fuentes et al., 2019). Earlier studies among forensic vs. non-forensic nurses showed that firmness, limit setting and a non-judgmental attitude were more important for forensic nurses than non-forensic nurses for example (Bowen & Mason, 2012). These behaviors and skills may be easier for those higher in certain personality traits then other traits. Conversely, given the complex nature of the forensic mental health setting, it was hypothesized that other personality traits, such as neuroticism, may show a negative effect on forensic vigilance. Finally, since the forensic mental health sector is complex, and the patients pose with complex problems and can show aggression and violence (see for example Nijman et al., 2005), this work can be stressful (see also AEF, 2018). However, forensic vigilance may mediate the experienced stress level as those higher in forensic vigilance may feel more competent, which is linked to lower levels of stress (Paoline & Lambert, 2012) and may be less likely to be faced with aggression due to successful negation of potentially escalating situations. Conversely, stress or burnout symptoms may diminish the professional capacity for forensic vigilance, as stress may decrease the ability to focus, observe and process ques. These questions formed the basis of the third research question investigated in this thesis:

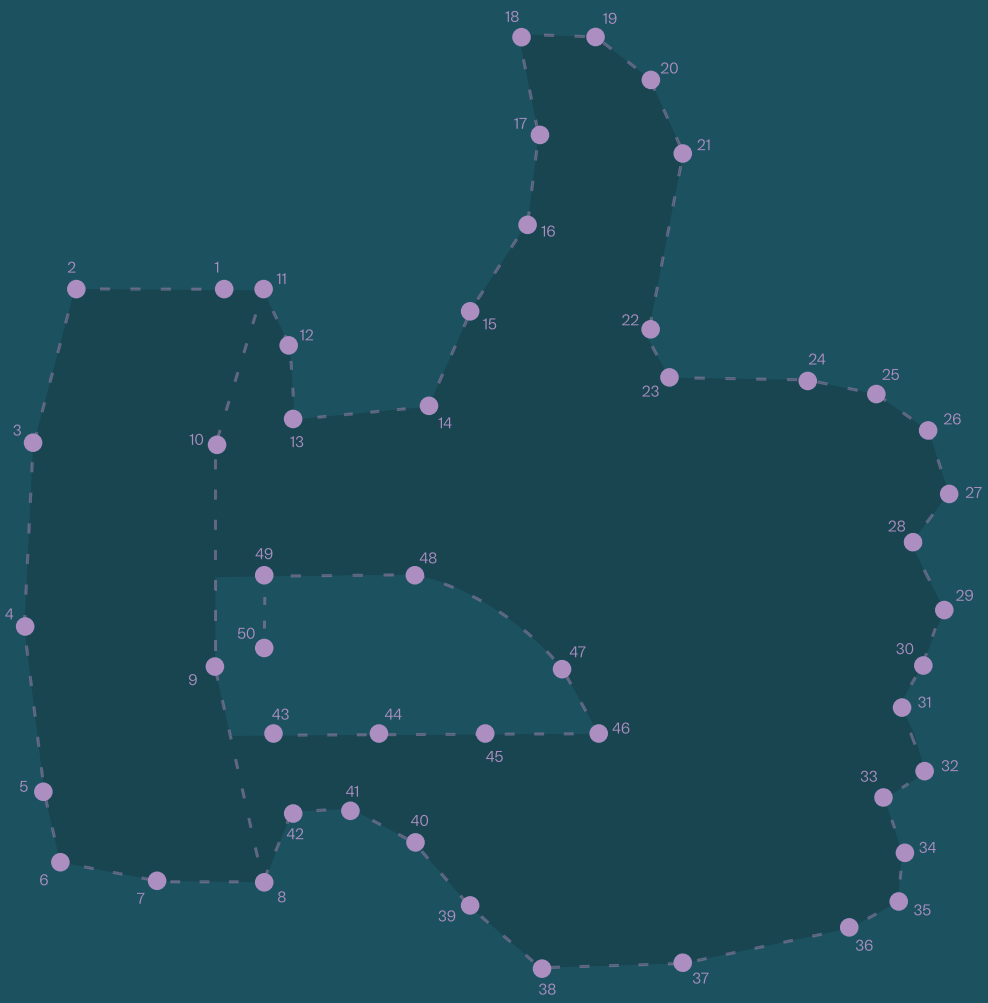
3. Is there a relationship between forensic vigilance and work experience, personality traits, experienced workplace satisfaction and stress of professionals (**Chapter 4**)?

Part III – Forensic vigilance in relation to the occurrence of incidents and maintaining safety in forensic mental health settings

Finally, since forensic vigilance is often mentioned in relation to maintaining safety in forensic psychiatric settings, one aim was to investigate whether forensic vigilance indeed plays a role in the occurrence of incidents and how. We also investigated patients' views on forensic vigilance, and explore what they consider important in staff members in relation to maintaining safety in forensic mental health settings.

4. In what way does forensic vigilance relate to the occurrence of incidents in forensic mental health settings (**Chapter 5**)?
5. What are patients' views on knowledge, skills, and attitudes needed by staff in order to maintain safety in forensic mental health settings (**Chapter 6**)?

Finally, **Chapter 7** provides a summary and general discussion of the findings presented in the previous chapters.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PART I

Defining and measuring forensic vigilance


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CHAPTER 2

What is so special about Forensic Psychiatric Professionals? Towards a Definition of Forensic Vigilance in Psychiatry

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Abstract

Forensic professionals have a unique role due to the precarious balance between providing care and enforcing control. In the Netherlands, the term "*forensische scherpte*", which we translated as 'forensic vigilance', is widely used to indicate a core competency professionals require during work in forensic psychiatric settings. However, a clear definition and understanding of the construct is lacking, which hinders theory building, measurement, research and training. The current study aimed to capture this concept and provide a first definition.

Thirty statements about possible aspects of forensic vigilance were formulated. Participants (N = 700) were forensic psychiatric professionals. By means of an online survey, participants had to indicate how much they endorsed each statement by means of 100mm Visual Analog Scale (VAS) ranging from "totally disagree" at 0 mm to "totally agree" at 100 mm. The most endorsed statements included "Forensic vigilance is being able to recognize even subtle signs of impending danger/possible escalation" and "Forensic vigilance is daring to be assertive". Fifteen statements were endorsed with a mean of 70mm or more. Cronbach's α of these 15 items was good (α = .844; α_{range} .828 - .845). The professionals regarded forensic vigilance as highly important (μ = 89.01 mm out of 100) for their work. Further research will include testing a newly constructed 15-item instrument for measuring forensic vigilance, and explore its relationship with personal and professional characteristics.

Many countries now recognize that those who have committed a criminal offense, (partly) due to a mental disorder, form a distinct population that needs some sort of specialized forensic psychiatric treatment and care besides incarceration (Arboleda-Florez, 2006). In general, forensic psychiatric settings are relatively successful in reducing recidivism compared to prison services without treatment: both general and violent recidivism after forensic psychiatric hospitalization are found to be lower than recidivism rates after prison sentence alone (Fazel et al., 2016; Wartna et al., 2006).

Violence and aggression among patients and towards healthcare professionals is common in forensic psychiatric settings, and all types of violence any aggression are seen, such as verbal, non-verbal, or physical behavior that comes across as threatening, sexual inappropriate discourse or behavior, or physical behavior that actually causes harm (themselves, others or property; Abderhalden et al., 2007; Bowers et al., 2011; Nicholls et al., 2009; Nijman et al., 2005). The relationship between experienced violence and aggression and staff stress, reduced psychological well-being, high levels of anxiety, lower levels of job satisfaction and higher levels of burn-out symptoms and sick leave is well-documented (Van den Bossche et al., 2012; Dickens et al., 2012; Johnson et al., 2018). Remarkably, in spite of high exposure to aggression and violence, several studies find that forensic nurses do not experience particularly high levels of stress and burnout (Happell, Martin, & Pinihanka, 2003; Lauvrud et al., 2009) and show higher levels of job satisfaction than non-forensic (civil) nurses (Happell, Pinikahana, & Martin, 2003). Happell, Pinikahana and Martin (2003) explain this finding by hypothesizing that forensic nurses are highly confident in their competence despite caring for a complex and possibly dangerous group of patients.

Professionals working in forensic psychiatric care aim for reduction of recidivism risks of patients while maintaining a safe environment for patients, staff and society. The forensic professional has a unique position in healthcare which is filled with ethical dilemmas caused by the dual role of being both a care provider and an agent of control. Forensic psychiatric patients have been declared (partially) criminally insane and therefore receive treatment, but in order to protect society the patient is heavily restricted in his or her freedom. The forensic professional is responsible for both aspects, the treatment and the restriction of freedom. The forensic professional also faces scrutiny from society, since forensic patients are often stigmatized (and processionals choosing to work with these patients are sometimes poorly understood by the general public), and incidents in forensic settings or with forensic patients, though rare, may receive media attention (Appelbaum, 1990; Holmes, 2005; Jacob, 2012; Martin, 2001; Mason, Coyle & Lovell., 2008; Timmons, 2010). While in civil psychiatry the focus is placed on self-empowerment of the patient and building resilience and reducing emotional stress as much as possible (Anthony, 1993; Frese et al., 2001), forensic psychiatric care is often guided by the Risk-Needs-Responsivity principles, which dictate that (among others) most resources are dedicated to those who pose the greatest risk and are aimed at reducing criminogenic needs while being responsive

to patient characteristics (Bonta & Andrews, 2007). Although attention has been given to specific professional roles within the forensic psychiatric field (Holmes, 2005; Jacob, 2012; Martin, 2001; Timmons, 2010), it often seems to be assumed that working in the field of forensic psychiatry requires a different mindset, attitude and approach compared to civil psychiatry, regardless of professional roles.

In the Netherlands, the term "*forensische scherpte*" (for instance see: Weeda, 2019) has been used for some time to indicate a central competency that forensic professionals need to be successful in their job. The Dutch term "*forensische scherpte*" literally translates into 'forensic sharpness' in English. However, this literal translation possibly does not cover the meaning conveyed by the Dutch term, which seems to encompass a certain amount of watchfulness and attention to one's surrounding and awareness of (possible) threat or escalation of the situation but also seems to include a certain willingness to act. We initially opted to translate the Dutch term into English as 'forensic awareness'. However, after consultation of international experts in forensic psychiatry who are part of the professional network of the authors, several other translations were suggested, among which 'forensic vigilance', 'forensic acumen' and 'forensic attitude'. In our opinion, the term that seems to cover the meaning in Dutch the best is 'forensic vigilance' and therefore we will use this term throughout the remainder of the paper.

It is not entirely clear when the term was first used, but after several severe incidents and cases of severe recidivism of forensic patients in the Netherlands, the remark was made (also in official incident investigations; see for example Inspectie Justitie en Veiligheid, 2018; AEF, 2018; Onderzoeksraad voor Veiligheid, 2019) that there seemed to have been a lack of forensic vigilance in those cases, and that professionals should remain "sharp" to prevent incidents. The term recently gained momentum and currently the term "*forensische scherpte*" [forensic vigilance] is rather widely used in the Netherlands, in daily practice between professionals, but also in official documents, such as letters and policy from the Ministry of Justice and Safety, incident reports, institutional training programs, job vacancies etcetera. However, despite its widespread use, no unambiguous definition of this construct exists to date. This is problematic since different people explain the term differently (only on the professional discussion platform Discura, www.discura.nl there were at least five different explanations or definitions of the concept given). However, it seems to be assumed, at least in the Dutch forensic mental health sector, that forensic vigilance is a core competency that forensic professionals require to be able to prevent violent incidents between patients and towards staff, and undesired situations, as well as to reduce the risks of recidivism during leave from the hospital and re-entry into society (see for example Onderzoeksraad voor Veiligheid, 2019 or Weeda, 2019). The lack of a clear and generally accepted definition of this concept hinders theory building, communication, measurement, research and training.

We hypothesize that forensic vigilance is a central competency not only for Dutch, but also for forensic professionals in forensic psychiatric settings across nations, although

other countries may have different terms for it. When we consulted several international colleagues about the English terminology, all instinctively knew what construct we meant, and recognized that this was a relevant construct for forensic professionals, although in some cases no distinct term in their country came to mind. This seems to strengthen the idea that this phenomenon does exist and is highly relevant in the field of forensic mental healthcare, while the term 'forensic vigilance' itself may be new to some. This assumption seems to be supported further by the fact that many "standard" international textbooks start with describing the unique position the forensic psychiatric professional takes, and the myriad of responsibilities and ethical dilemmas they face (see for example Robinson & Kettles, 2000; Simon & Gold, 2010). It may, for example, be the case that a certain patient with complex psychopathology is starting to get institutionalized and is losing hope for the future. For this patient it could help to practice leave or furlough to reduce the risk of institutionalization and provide a boost to the therapeutic relationship and his treatment motivation. However, this patient may still pose a risk to society that is more serious than one would like when starting with leave. In this case, the decision balances precariously between what is best for the patient and what is needed to protect society. Forensic vigilance seems to be a complex mix of awareness of possible threat or danger and patient interaction, a willingness to act and to discuss matters with patients and colleagues, and "gut feelings". Forensic vigilance is assumed by many to exceed formal training and knowledge, such as training in risk assessment or aggression management and knowledge of psychopathology, and is relevant for all professionals working in forensic care and treatment institutions. We specifically hypothesize that forensic vigilance is important for all disciplines in a forensic setting on the basis of how the term is currently used, our professional experience and our hypothesis of what this construct entails. Naturally, those disciplines where direct patient contact is central, such as group supervisors or forensic psychiatric nurses will be required to "be forensically vigilant" almost all the time. We hypothesize that forensic vigilance is that what is needed to maintain the, often precarious, balance between providing care and maintaining order. We furthermore hypothesize that forensic vigilance determines whether a forensic professional is deemed capable by peers and superiors, but also whether the professional feels competent and at ease in the complex forensic setting. Although central to those working in direct patient contact, we hypothesize that disciplines with less, or even no direct patient contact will still need forensic vigilance from time to time. A social worker responsible for mapping and screening a patient's outside world contacts for example, would be required to notice if a contact may possibly smuggle contraband for a patient, assertively discusses this with relevant persons, including the patient involved, and should dare to limit unsupervised contact if doubt remains. Even an administrative employee handling patients' finances should signal suspect transactions for example. All employees working in a forensic setting are part of the protective yet caring structure formed around the patient. We hypothesize that certain aspects of forensic vigilance can be trained to a certain degree (for

example which specific risks are associated with different types of psychopathology), but that there is also an innate component, which may be difficult or impossible to train such as a certain amount of instinct and natural comfort with being assertive.

We hypothesize that high levels of forensic vigilance reduce risks of institutional violence, the number of absconsions and failures to return, and lower relapse risk (during treatment), because personnel that is high in forensic vigilance will de-escalate a situation before it fully develops. Along this line, we also hypothesize those with high levels of forensic vigilance may feel more competent and comfortable in working in the field of forensic psychiatric healthcare, because they can adapt to offender's risks and needs more readily, are more prepared for boundary-setting and are more assertive than staff members less skilled in forensic vigilance. Previous studies have found that high levels of professionalism are associated with lower levels of job stress and higher levels of job satisfaction (Paoline & Lambert, 2012), and we hypothesize forensic vigilance to be a kind of professionalism.

Construct clarity of what forensic vigilance is and how it could be assessed in forensic psychiatric professionals and ward teams can inform the field of forensic psychiatry, could improve communication about this topic and provide a starting point for future research. Eventually, these efforts could possibly contribute towards increasing the safety and quality of forensic care, and could possibly reduce violence between patients and towards staff. A definition and operationalization of the construct can possibly also improve staff training programs. It can furthermore be helpful in the selection of forensic staff members, provided research offers insight into the relationship between certain staff characteristics and forensic vigilance.

Current study

The current study aims to provide a definition of the concept forensic vigilance by simply asking a large number of forensic psychiatric professionals what they feel are important aspects of the construct, and whether the construct is important in their work. The aspects deemed most important to define forensic vigilance according to the responding professionals will be incorporated in this definition. This was done by presenting the professionals with statements that possibly could pertain to forensic vigilance and asking them to what extent the statements in their minds were representative of the construct of forensic vigilance. Information was gathered through an online survey distributed among a large cohort of professionals working in the field of forensic psychiatric healthcare in the Netherlands.

Method

The study was reviewed by an institutional review board of Forensic Psychiatric Centre "de Rooyse Wissel" to which the first author (main researcher) is affiliated, who provided administrative permission and scrutinized the ethics of the study. Aspects of the study

design that were considered were, among other things, the burden placed on participants, any possible negative effects (none were expected), the procedures for data collection, storage and protecting anonymity and the measures chosen, in accordance with ethical compliance principles (American Psychological Association, APA, 2020).

Materials

Based on their experiences working in forensic psychiatric institutions, potential aspects of what forensic vigilance could be were formulated by the authors in the form of a set of statements. Based on professional experience and on sources naming forensic vigilance, such as incident reports the authors first gathered numerous phrases, phenomena and examples that they had witnessed, heard being mentioned or described by others as having a connection with forensic vigilance. Before doing so, several authors consulted professionals in the field to consult them about their ideas of forensic vigilance and read incident reports and newspaper articles etc. On the basis of this collection, statements were formulated until all named aspects were covered, we did not agree on a maximum number of statements or a maximum length per statement beforehand. Completeness was more important than conciseness at this point. Next, each author judged the set of statements individually. In a second session, these statements were scrutinized on the precise formulation, resulting in the final statements that were presented to participants. These included for example "Forensic vigilance is being able to recognize even subtle signs of impending danger/possible escalation", "Forensic vigilance is anticipating possible ways in which a situation can escalate before it happens", "Forensic vigilance is being able to recognize and communicate about your "gut feelings" and "Forensic vigilance is actively observing your colleagues and surroundings". In two sessions, these statements were finalized in consensus, leading to a total of 30 statements; all formulated in an affirmative ("Forensic vigilance is …") manner (see Table 2 for all statements).

The online survey was made with SurveyMonkey and consisted of 4 sections. The first section (after informed consent was provided by the respondent) collected background information from the participants, such as age, gender and number of years of professional experience. The next section consisted of the 30 statements being presented to participants one by one with 100 millimeter Visual Analogue Scales (VAS; Crichton, 2001) on which participants had to indicate how much they endorsed the statement. The left end of the VAS was labelled "Totally disagree" and the right end of the scale was labelled "Totally agree". Scores could range from 0 to 100 mm but the numbered score was not visible in any way to the participant when scoring the statements on the VAS-scales. The third section presented the statements to participants again and asked them to pick the statements that they felt were most representative of the construct forensic vigilance. Participants could select a minimum of 1 and a maximum of 5 statements and no specific ranking or order in the statements was asked. Finally, a short open-ended questionnaire section asked participants to describe forensic vigilance in their own words and indicate

what they feel is the importance of forensic vigilance in working in forensic psychiatric care. This question was added to ensure the statements formulated in this research and provided to participants covered all aspects of the construct of forensic vigilance as seen by professionals. The final questions asked participants about their opinions about the associations between forensic vigilance and work experience, and whether they believed that training could be effective in increasing forensic vigilance.

Procedure

The survey was distributed through professional networks such as LinkedIn, KNAPP[1] and professional networks of the authors, social media groups (on Facebook and Twitter), and through the intranet pages of forensic psychiatric institutions. The target population consisted of professionals working in the field of forensic psychiatry in the Netherlands. To ensure this specific target population, we only shared our survey on intranet pages of forensic psychiatric institutions and networks (e.g., KNAPP), although we may have reached some non-forensic professionals through LinkedIn. In our advertisement and on the first page of our survey, we included a statement "Who can participate" to draw attention to the fact that only forensic professionals were invited to participate. The survey was active for three months, during which calls to participate were repeated a few times on each distribution channel to ensure sufficient participation.

Potential participants were first presented a digital informed consent page providing information about the purpose of the study and the questions that could be expected. The informed consent specified that participants could end their participation at any time, and that participation was anonymous. For this, personal and contact information collected for participation in the lottery (see below) was separated from study data, and could in no way be connected to their answers to the survey questions. Participants had to indicate that they were 18 years of age (or older), and that they had understood the information and agreed to the terms by clicking a button. If a participant indicated that she/he did not agree to the terms set in the informed consent or was not at least 18 years of age they were automatically redirected to the end of the questionnaire. When participants agreed to the informed consent conditions and were at least 18 years old, the four sections of the survey were shown consecutively (see materials sections).

As an incentive to complete the survey, participants were offered to take part in a lottery to win €12,50 or €25 or €50 in the form of a (digital) gift certificate. This information was included in the advertisement text. The lottery page was on a different URL than the actual survey, and details entered here could not be connected to answers given in the survey. This was done in order to collect personal details solely for the purpose of contacting lottery winners, while maintaining an anonymous dataset. The lottery URL was shown to participants at the end of the survey.

1 A professional network based on the concept of social media specifically developed for forensic psychiatric professionals in the Netherlands.

The personal details of participants, which were collected with the second URL solely for the purpose of the lottery, were deleted roughly two months after data collections finished after the winners had been randomly drawn, contacted and received their prizes. The research data, which does not contain any personal information, are stored on a secured server (inside the high-secure forensic hospital), in a folder that can only be accessed by the authors, will be stored for at least 10 years after the last publication stemming from this data, in accordance with APA standards (APA, 2020).

Participants

In total, the survey was started 916 times. Unfortunately, it is impossible to determine how many people saw the call to participate but did not open the survey.

Of the 916 participants who started the survey only one respondent (0.1%) did not agree to the informed consent, 93 (10.2%) accepted the informed consent but did not answer any questions, and 122 (13.3%) completed the background questions but did not answer any further questions. These potential subjects were excluded from analysis, leaving 700 (76.4%) participants in the final analysis. These professionals had a mean of 10.09 (*SD* = 7.96) years of experience in forensic mental healthcare, and a mean of 13.49 (*SD* = 10.11) years on average in mental healthcare in general. Their mean age was 40.45 (*SD* = 11.47) years, and 62% was female. Forty-five (6.4%) participants indicated they were a previous-service user (in the Netherlands peer-support by previous service users with special training is on the rise). About two-third of the sample (65.4%) indicated that direct patient contact was their main task and another fifth (21.6%) indicated that they often have direct patient contact. About a third (37.6%) indicated they have a role in the treatment milieu (for example as group counselor) and about a quarter of the sample (26.9%) indicated they had a role in treatment (outside the ward, such as psychologist or psychiatrist). Almost half of the respondents (45.1%) indicated they are currently working in a high-secure facility, 23.6% worked in a medium security facility and 12.0% in a low-security institution at the time of the survey. Almost one fifth of the sample (19.1%) indicated that they work in an outpatient facility. Please see Table 1 for the demographic background of the participants.

Table 1
Demographic characteristics of the sample, 700 forensic psychiatric professionals

		μ (SD)
Forensic mental healthcare experience		10.09 (7.96)
General mental healthcare experience		13.49 (10.11)
Age in years		40.45 (11.47)
		Frequency (%)
Gender	*Male*	266 (38.0%)
	Female	434 (62.0%)
	Other	0 (0.0%)
Previous service user		45 (6.4%)
Patient contact frequency	*Yes, main task*	458 (65.4%)
	Yes, often	151 (21.6%)
	Yes, sometimes	47 (6.7%)
	No, but regular file access	27 (3.9%)
	No, never or very rarely	17 (2.4%)
Professional role	*Role in treatment milieu*	263 (37.6%)
	Role in treatment (outside of milieu)	188 (26.9%)
	Treatment coordination	66 (9.4%)
	Management/supervision	67 (9.6%)
	Security	10 (1.4%)
	Administration/supporting services	49 (7.0%)
	Extra-institutional/outpatient services	21 (3.0%)
	Monitoring/judicial services	9 (1.3%)
	Education/vocation	27 (3.9%)
***Setting**‡*	*High-secure*	316 (45.1%)
	Medium-secure	165 (23.6%)
	Low-secure	84 (12.0%)
	Housing institute	27 (3.9%)
	Outpatient treatment/mentoring	134 (19.1%)
	Regional coordination	1 (0.1%)
	Probation services/district attorney	9 (1.2%)
	Addiction institute	5 (0.7%)
	Prison/detention	18 (2.6%)
	Other	26 (3.7%)

		μ (SD)
	High-secure	245 (35.0%
	Medium-secure	122 (17.4%)
	Low-secure	87 (12.4%)
	Housing institute	62 (8.9%)
	Outpatient treatment/mentoring	104 (14.9%)
Previous setting‡	*Regional coordination*	6 (0.9%)
	Probation services/district attorney	25 (4.2%)
	Police	8 (1.1%)
	Addiction institute	24 (3.4%)
	Prison/detention	42 (6.0%)
	Other	261 (37.3%)

‡ Respondents could indicate they work, or have worked, in more than one setting. The sum of percentages can therefore be larger than 100%.

Analyses

Analyses were conducted with Statistical Package for Social Science (SPSS) version 20.0. Demographic data were analyzed with descriptive techniques, such as means and standard deviations and frequencies and percentages.

To analyze the 30 statements, means and standard deviations were obtained from the scores. A mean endorsement score of 70 or higher (on a VAS scale ranging from 0 mm to 100 mm) was chosen as a criterion that the statement according to many of the respondents covered an aspect of the term forensic vigilance. Cronbach's α was computed to analyze the internal consistency of the answers to the 30 statements.

The analysis of the top-ranked statements (section three of the questionnaire) was done by computing the frequency and percentage of each statement. Finally, the open-ended question was analyzed by means of thematic analysis (not in SPSS; Javadi & Zarea, 2016). Answers were categorized (manually) into topics, which were not predefined but rather emerged naturally from the text provided by participants. Subsequent open answers that mentioned the same topic were also coded. Next, all mentions in the same topic were collected, which allowed for the dissection of the topics mentioned most frequently, which were labelled as the "themes".

The statements that were endorsed by participants with a mean of 70 out of 100 were included in a mean score, which was then related to professional experience by means of a Pearson correlation, and to professional role and patient contact frequency by means of one-way ANOVAs. The choice for a mean of 70 or higher was arbitrary, reached in consensus between authors, as we felt this would differentiate between well-supported and moderately or not supported statements.

Results

Results about the endorsement scores of the 30 statements are presented in Table 2. Fifteen statements had average endorsement ratings of 70 or higher. The most endorsed statements included "Forensic vigilance is being able to recognize even subtle signs of impending danger/possible escalation", "Forensic vigilance is knowing when an observation requires action", "Forensic vigilance is anticipating possible ways in which a situation can escalate before it happens" (e.g. escalation into an uncomfortable or verbally, sexually or physically threatening situation) and "Forensic vigilance is being able to discuss doubt/uncertainty with colleagues". The statements that were most endorsed by participants on the VAS-scale were also often selected in the top five ranking of statements that were deemed to be most representative of forensic vigilance according to participants. Besides that, the five statements that were included in the top five ranking most often were all selected by at least a third of the participants (31.0% – 58.4%). The five least chosen statements were all chosen by less than 1.0 percent of participants (0.0% - 0.9%).

Internal consistency by means of Cronbach's α (of the endorsement scores) is good (α = .799), no single statement increased Cronbach's α much if the item was removed (α_{range} .783 - .812). Participants also indicated that they consider forensic vigilance to be a very important construct in working in a forensic psychiatric setting (μ = 89.09 mm). The majority of participants (59.1%) believe that forensic vigilance increases with increasing experience. Please see Table 3 for the percentage of participants that hypothesized other relationships between forensic vigilance and training and experience. The open-ended questions showed themes that were similar to the statements, such as forensic vigilance is: "being aware of subtle signals", "awareness of the patient and the behavior, and the dynamics with other patients", "alertness", "being able to act upon or discuss doubt with colleagues" and "building a constructive therapeutic alliance with the patient".

The fifteen most endorsed statements ($\mu_{endorsement} \geq 70.0$; see Figure 1) were used to calculate an overall forensic vigilance endorsement score. The Cronbach's α based on the endorsement of these 15 items is .844 (range .828 - .845). The mean endorsement score of these 15 statements showed almost no correlation with general work experience in years, with Pearson r being .074 (p = .050), and a very modest but significant association with forensic work experience in years with Pearson r being .105 (p = .005). One-way ANOVA of the mean endorsement of the 15 statements indicates that there is a significant difference in endorsement between different professional roles ($F(8)$ = 4.594, p = .000).

Table 2
Endorsement of statements about forensic vigilance among 700 forensic psychiatric professionals

	No. of statement	*μ (SD)*
1. Forensic vigilance is being able to recognize even subtle signs of impending danger/possible escalation	19	84.45 (14.10)*
2. Forensic vigilance is knowing when an observation requires action	11	83.22 (16.24)*
3. Forensic vigilance is being able to recognize and communicate about your "gut feelings"	20	83.02 (16.79)*
4. Forensic vigilance is being able to discuss doubt/uncertainty with colleagues	22	82.98 (18.86)*
5. Forensic vigilance is anticipating possible ways in which a situation can escalate before it happens	12	82.43 (16.77)*
6. Forensic vigilance is being aware of the patient, the mental disorder and the criminal history	4	82.15 (19.61)*
7. Forensic vigilance is constantly being aware of your own behavior and reactions, and the effect it as on the patient	8	74.73 (21.52)*
8. Forensic vigilance is realizing that providing healthcare may sometimes go against what patients themselves feel is best	13	73.96 (20.67)*
9. Forensic vigilance is being able to understand behavior in the context of the forensic setting where the patient is staying	3	73.86 (20.49)*
10. Forensic vigilance is actively observing your colleagues and surroundings	1	73.13 (22.21)*
11.Forensic vigilance is being "hyperalert" in order to prevent incidents	2	73.00 (20.96)*
12. Forensic vigilance is daring to be assertive	21	72.35 (22.89)*
13. Forensic vigilance is being aware of what may serve as a concealed storage for contraband	16	71.96 (22.80)*
14. Patients know which employees are more or less forensically aware	30	71.44 (22.01)*
15. Forensic vigilance is realizing how patients can influence each other negatively	15	71.31 (21.39)*
16. Forensic vigilance is being able to distinguish the boundary between healthy and unhealthy behavior	5	68.75 (24.34)*
17. Forensic vigilance is being able to capitalize on chances/possibilities for patients	24	67.51 (25.01)*
18. Forensic vigilance is not shying away from making controversial decisions	14	66.83 (22.85)*
19. Forensic vigilance means that information obtained confidentially from a patient sometimes has to be used anyway	10	65.41 (23.01)*
20. Forensic vigilance sometimes means providing healthcare without putting the patients needs first	7	64.86 (23.81)*
21. Forensic vigilance means rather over-reacting, than not doing enough	9	64.76 (23.94)*
22. Forensic vigilance is the same as risk assessment/risk management[A]	25	51.78 (26.31)†
23. Forensic vigilance is something that employees working in non-forensic care do not need	6	50.81 (26.19)
24. Continuous forensic vigilance is very difficult, if not impossible[A]	29	44.80 (27.40)*
25. Forensic vigilance is always action-oriented[A]	26	40.97 (21.98)*
26. Forensic vigilance can stand in the way of bonding with the patient	23	40.66 (28.65)*

	No. of statement	*μ (SD)*
27. Forensic vigilance is different for forensic nurses/group supervisors than it is for therapists	17	35.82 (28.76)*
28. Forensic vigilance is taking risks so society does not have to	18	34.90 (25.56)*
29. Forensic vigilance is the same as relational security[A]	28	28.76 (22.11)*
30. Forensic vigilance is limited to the behavior of the patient[A]	27	18.82 (18.03)*

* Significantly different from 50.00 at $p < .001$ † Difference with 50.00 shows a trend towards significance at $p < .10$
[A]Statements were conceptualized as non-affirmative ("Forensic vigilance is not …") and reformulated

Table 3
Participant (N = 700) ratings of the importance of forensic vigilance, and participant's view of the relationship between forensic vigilance, training and experience

		μ (SD)
Importance of forensic vigilance in working in forensic psychiatric healthcare		89.09 (12.18)
		Frequency (%)
Experience	*Increases with experience*	389 (59.1%)
	Stays the same	25 (3.8%)
	Decreases with experience	42 (6.4%)
	You either have it or not	18 (2.7%)
	Relationship w. experience depends on the person/team/situation etc.[A]	133 (20.2%)
	Inverse U-curve between experience and forensic vigilance[A]	51 (7.8%)
Training	*Increases with training*	55 (8.4%)
	Increases with experience	43 (6.5%)
	Increases with both training and/or experience	513 (78.0%)
	You either have it or not	5 (0.8%)
	Effect of training is dependent on the person/team/situation etc.[A]	9 (1.4%)
	Some can learn and benefit, others just don't have it[A]	33 (5.0%)

[A] Answers were not provided verbatim as an answer option to participants. Rather, an open-ended answer option "other" was provided, which were categorized into emerging themes.

Those with a role in the direct ward treatment milieu (sociotherapists, nurses, group supervisors etc.) endorsed the 15 statements significantly stronger than professionals with a role outside of the direct ward treatment milieu (psychologist, psychiatrist, therapist etc.) and those with a role in treatment coordination, but not other professionals (management, security, administration and supporting services, etc.). There was no difference in endorsement scores between professionals with different levels of patient contact intensity ($F(4) = 1.642$, $p = .162$).

Figure 1
Statements that had a mean endorsement score of 70 or higher (fifteen statements)

1. Forensic vigilance is being able to recognize even subtle signs of impeding danger or possible escalation.
2. Forensic vigilance is knowing when an observation requires action.
3. Forensic vigilance is being able to recognize and communicate about your "gut feelings".
4. Forensic vigilance is being able to discuss doubt/uncertainty among colleagues.
5. Forensic vigilance is anticipating possible ways in which a situation can escalate before it happens.
6. Forensic vigilance is being aware of the patient, their mental disorder and their criminal history.
7. Forensic vigilance is constantly being aware of your own behavior and reactions, and the effect it has on the patient.
8. Forensic vigilance is realizing that providing healthcare in this context may sometimes go against what patients themselves feel is best.
9. Forensic vigilance is being able to understand behavior in the context of the forensic setting where the patient is staying.
10. Forensic vigilance is actively observing your colleagues and surroundings.
11. Forensic vigilance is being "hyperalert" in order to prevent incidents.
12. Forensic vigilance is daring to be assertive.
13. Forensic vigilance is being vigilance of what may serve as concealed storage for contraband.
14. Patients know which employees are more or less forensically aware.
15. Forensic vigilance is realizing how patients can influence each other negatively.

Discussion

Forensic professionals work with complex and challenging patients who have an increased risk of engaging in violence and aggression towards each other and staff. Furthermore, the forensic setting is a unique environment with a delicate balance between care for, but also, power over, the patients. The forensic mental health professional is responsible for providing care and therapy to a mentally disordered patient, but is at the same time responsible for maintaining a safe society and is an agent that has control over the freedom of that same patient. This freedom restriction and rule enforcement does not always stem from the patients' (e.g., restriction to prevent self-harm) or immediate danger to others (as can be the case in general psychiatric healthcare), but from the interest of the safety of society as a whole. It has been suggested that there is a unique competency that is needed in forensic psychiatric healthcare professions: forensic vigilance. In the current study, we attempted to define forensic vigilance and the underlying construct by surveying a large sample of forensic psychiatric professionals.

It was found that professionals working in the forensic field in general regard forensic vigilance a highly important construct for their work, as the mean indication of "How important is forensic vigilance in your work?" was 89.09 mm (on a VAS scale ranging from "not important at all, at 0 mm, to "very important", at 100 mm) . Fifteen statements (out of thirty) were endorsed with a mean of 70 (mm, out of 100) or higher. Internal consistency of the mean of these 15 items was .844 (range of the individual items .828 - .845), which is considered good according to internationally accepted standards (see for example Tavakol & Dennick, 2011). Based on the statements that were endorsed on the VAS scales with a mean of 70 mm or higher (out of 100 mm), we want to propose the following definition of forensic vigilance:

> *"Forensic vigilance is anticipating on possible escalation of a situation before it happens by actively observing your surroundings and colleagues, and knowing when an observation requires action. Forensic vigilance requires awareness of the patient(s), their mental disorder, criminal history and awareness of the context of a forensic setting. It is being able to recognize even subtle signs of possible escalation, the capacity to communicate with colleagues about observations, doubt, uncertainty or gut feelings, and the willingness to act when necessary."*

Conceptually we hypothesize, based on the answers of forensic professionals, personal communication with researchers and practitioners, and news and other reports (see for example Inspectie Justitie en Veiligheid, 2018; AEF, 2018; Onderzoeksraad voor Veiligheid, 2019; Weeda, 2019), that forensic vigilance is closely linked to, but distinctly different from other central concepts in the field of forensic psychology and psychiatry, such as risk assessment and relational security. Risk assessment is excellent for predicting recidivism risk on both short term (for example with the Short-Term Assessment of Risk and Treatability; START; Braithwaite, et al., 2010) and long term (for example the

Historical, Clinical and Risk Management; HCR-20; Douglas et al., 2013). Although forensic vigilance clearly also entails anticipating possible risks, risk assessment is more formal and more structured and is less suited to make "on the spot" decisions than forensic vigilance in daily practice. Relational security (Tighe & Gudjonsson, 2012) also closely links to forensic vigilance, as it covers several areas, such as the team, the patient and professional boundaries. Relational security, however, implies an aspect of action, while forensic vigilance appears to be more of a general attitude and basic competency of forensic staff members that is required to suitable for the job.

Finally, while we expect that certain aspects of the wider construct may also be relevant in other (psychiatric) healthcare settings, or even other professions, such as the police force, we do expect that the construct as a whole is unique to forensic psychiatric settings. However, this has to be investigated in future research, by including healthcare professionals from other settings.

In conclusion, we think the study presented here provides a first insight into the widely recognized, but previously undefined construct of forensic vigilance. The construct seems to be highly relevant for working in the field of forensic psychiatry, and seems to take its own place among other central concepts in the field.

This study has a number of limitations. First, it is unknown how many professionals saw the call for participants but did not decide to participate. A self-selecting bias may be present, with individuals interested in the topic or convinced of the importance of the construct more likely to participate than others. Even though we did ask participants about their professional background, and distributed the survey through professional networks, it is possible that non-forensic professionals or even individuals not professionally employed in mental healthcare participated in the survey. Furthermore, although we gave participants an open-ended question to describe what forensic vigilance ["*forensische scherpte*"] is according to them, there is a chance that not all aspects of the construct were captured by the survey. Finally, the choice to use a cut-off of 70 mm or higher on the VAS-scales and the choice to allow the respondents to select up to five statements that they think best described forensic vigilance is an arbitrary one.

Despite these limitations this paper provides a first attempt at construct clarity and definition for forensic vigilance, a concept we assume is central in forensic psychiatric work.

Future work will be focused at developing an instrument, based on the 15 most endorsed items (see Figure 1), which may be helpful to assess and discuss forensic vigilance in professionals and teams, and at investigating the validity and reliability of this tool. Forensic vigilance may also play a prominent role in incidents in forensic psychiatric settings Future research may be conducted to establish whether this is indeed the case, by for instance investigating whether forensic vigilance was indeed missing or decreased during incidents. This can, for example, be done by having trained, independent observers score existing incident reports on the presence of different aspects of forensic vigilance, or by monitoring forensic vigilance in teams and individuals over time as well

as recording incident occurrence over time. Another possible method of exploring this relationship may be interviewing professionals with regards to instances they recall from their professional career where they felt that forensic vigilance prevented an incident from occurring, or instances where forensic vigilance may have been lacking. Future work can also aim at investigating the relationships of forensic vigilance with personality traits, burnout and stress symptoms, work satisfaction and team dynamics. Although we have noted that forensic psychiatric professionals do not seem to experience high levels of stress or burnout symptoms (Happell, Martin, & Pinihanka, 2003; Lauvrud et al., 2009), we expect that this will mostly be true for those professionals with high levels of forensic vigilance. We hypothesize that those with high levels of forensic vigilance to feel more relaxed in the forensic psychiatric setting and feel more competent in their work, and that these professionals therefore experience lower levels of stress and burnout, are more satisfied in their work and are less likely to leave the forensic psychiatric sector in comparison to those with lower levels of forensic vigilance. Since, among others, attentiveness to of one's surroundings, anticipating possible scenarios a situation can evolve and assertiveness seem to be central to the construct of forensic vigilance, it seems likely that personality traits that also encompass similar characteristics are related. We therefore also hypothesize that forensic vigilance will show significant relationships with certain personality traits, such as neuroticism and extraversion. Furthermore, in future research, forensic patients could be consulted to investigate whether the proposed concept of forensic vigilance is in line with their experiences. It would be very insightful to examine what characteristics or aspects contribute to patients having a feeling that a staff member is very vigilant, watchful or attentive. One could question patients about with which type of staff members they would be more inclined to break rules for example, or even smuggle or deal contrabands. What makes that they would conduct such activities or show certain behaviors (e.g. (sexually) inappropriate behavior or discourse) with one staff member but not another? Insight into this issue could not only improve the state of knowledge about forensic vigilance, but also greatly improve the clinical utility of the construct.

All these lines of future research could increase knowledge about forensic vigilance and strengthen the status of this construct in the field of forensic psychiatry.

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CHAPTER 3

Forensic Vigilance in Forensic Professionals: *Development, Reliability and Factor Structure of the Forensic Vigilance Estimate*

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Abstract

Purpose Forensic vigilance is a central competency that forensic professionals need to meet the complex demands of working in forensic settings. Until recently, no instrument for forensic vigilance was available. In the current study, we developed a self-assessment tool of forensic vigilance for individuals and teams working in forensic settings, and investigated its psychometric properties.

Approach The Forensic Vigilance Estimate (FVE) was presented to 367 forensic psychiatric professionals and 94 non-forensic psychiatric professionals by means of an online survey. Professionals rated themselves on 15 aspects of forensic vigilance.

Findings Results indicated that the FVE had good psychometric properties, reflected by a good to excellent internal consistency (Cronbach's α of .903), a good split-half reliability (.884), and good test-retest reliability (.809). The factor structure of the FVE was captured by a one-factor model (RMSEA .09, SRMR .05, TLI .91 and CFI .92). Proportion of explained variance was 52%. Forensic professionals scored significantly higher than non-forensic professionals on the FVE ($t(459) = 3.848$, $p = .002$).

Practical implications These results suggest that the FVE may reliably be used for research purposes, for example to study the effects of targeted training or intervention or increasing work experience on forensic vigilance or to study which factors influence forensic vigilance.

Originality This study represents the first attempt to capture forensic vigilance with a measuring instrument.

Forensic psychiatric patients suffer from similar mental disorders and show similar levels of sexual offending, fire-setting and aggression and violence compared to civilly committed non-forensic psychiatric patients (Galappathie et al., 2017; Huitema et al., 2018). However, forensic mental health settings present their own unique challenges. First, forensic professionals are both caregiver and an agent of power (Keulen-de Vos & de Vogel, 2022; Skeem et al., 2007). Second, the forensic mental health professional often faces ethical dilemmas and scrutiny by the general public and media, more so than those in civil non-forensic psychiatric settings (Calcedo-Barba, 2006; Jacob, 2012; Mason, Coyle & Lovell, 2008; Timmons, 2010). Finally, in civil psychiatry the aim is to reduce symptomatology, to develop self-empowerment and to help patients build resilience and reduce emotional stress (Frese et al., 2001; Muir-Cochrane et al., 2011). In contrast, the main aim in forensic mental healthcare is to reduce recidivism risk, and care is based on the Risk-Needs-Responsivity principles (Andrews & Bonta, 2017). Though there are similarities with civil mental health settings, the forensic mental health setting is a unique working environment which requires a highly specialized competency from professionals. One such competency is forensic vigilance.

The construct of "forensic vigilance" describes the hypothesized specialist competency needed by professionals working in forensic settings, regardless of specific professional roles and overarching general clinical judgement. The competency consists of components of clinical judgement and risk assessment that all professionals working in the field of (mental) healthcare use (Muir-Cochrane et al., 2011), complemented with skills, attitudes and - most importantly - a manner of thinking specific to the forensic context. It requires theoretical knowledge of mental disorders and their relation to offending behavior, knowledge of theories offending behavior, the criminal history of specific patients, antecedents and signals of escalation of specific patients and also requires observations and subjective impressions based on clinical judgment, such as "gut feelings". The forensic professional needs to "connect the dots" and think how a specific patient, with a specific criminal history and diagnosis, who shows specific behaviors at that moment in time, could react in a specific situation or to specific stimuli and what that reaction means in relation to themselves as professionals, the patient, and others or the society. Specifically how these "dots" are connected or the weight that is given to each dot differs when compared to the care and management of patients in non-forensic settings compared to those in settings with patients who have known forensic histories. Since the aim of treatment is primarily to reduce the risk of harm to others and society, decision-making in forensic settings is weighed in that specific context.

Though several scholars have written about the specialism and professional competencies of professionals working in this field, they have primarily done so in the context of specific professional roles (Jacob, 2012; Koskinen et al., 2013; Packer & Grisso, 2011; Timmons, 2010; Varela & Conroy, 2012). However, it is likely that professionals working in the field of forensic mental healthcare require a different

mindset, competencies, attitude and approach compared to civil mental healthcare, independent of specific professional roles. They need to be more forensically vigilant and aware than those working in non-forensic settings. In the Netherlands, this construct is called "*forensische scherpte*", which is being used extensively for years (see for example Andersson Elffers Felix [AEF], 2018; Ondersoeksraad voor Veiligheid [Council for Safety Research], 2019; Weeda, 2019). However, this construct lacked a definition and supporting scientific research. Though internationally the specific term "forensic vigilance" is new and was first coined in the paper by Clercx et al. (2021), the construct that is indicated with this terminology is not new. The existence of a distinct specialty has been described elsewhere by several scholars (Jae-Woo & Hye-Jin, 2021; Romain-Glassey et al., 2014). Clercx et al. (2021) expanded on the idea of forensic vigilance and conducted a study to delineate and define the construct. The term "forensic vigilance" was chosen in consultation with several international scholars in forensic psychiatry, which all indicated that the construct indicated with the term was something they readily recognized (Clercx et al., 2021). Furthermore a study was conducted among international forensic psychiatric professionals (N = 83), which showed a similar background in terms of years of experience, professional role, gender and frequency of patient contact to the Dutch professionals whom participated in the study by Clercx et al. (2021). This study shows that the same statements that were endorsed highly by the Dutch professionals, were highly endorsed by the international professionals. Most high-scoring statements showed no statistical difference between the Dutch and international professionals. Furthermore, the international experts also indicated forensic vigilance is highly important in their work (88.57 out of 100, compared to 89.09 in the Dutch sample; no significant difference (Clercx & Keulen-de Vos, in preparation). These findings support the notion that while the terminology may be new, the idea that forensic psychiatric professionals need a highly specialized competency may be pre-existing in many countries.

Forensic vigilance is assumed to be important for making quick on the spot decisions, but also for observing long-term changes in patients and assessing how these changes relate to changes in recidivism risk. Forensic vigilance is seen as something separate from the therapeutic alliance between therapist and patient where the emphasis is on patient care and not necessarily on forensic risk management. Clercx et al. (2021) offered the following definition to provide wider understanding and clarity of the concept:

> *"Forensic vigilance is anticipating on possible escalation of a situation before it happens by actively observing your surroundings and colleagues, and knowing when an observation requires action. Forensic vigilance requires awareness of the patient(s), their mental disorder, criminal history, and awareness of the context of a forensic setting. It is being able to recognize even subtle signs of possible escalation, the capacity to communicate with colleagues about observations, doubt, uncertainty or gut feelings, and the willingness to act when necessary." (p. 14).*

Although this construct has now been defined, an instrument to measure the construct was not available, which hinders further research and theory development. Such an instrument is needed to study the relationship of forensic vigilance with other central concepts in the field, and whether empirical differences can be observed between mental health care professionals working in forensic and non-forensic settings.

The aim of the current study is to develop a tool to estimate forensic vigilance, and investigated its psychometric properties. The tool consisted of 15 items which were identified as being relevant from Clercx et al.'s (2021) study. Based on the results of Clercx et al. (2021), the experimental hypothesis is that the scale will produce good internal consistency and at least good split-half reliability and test-retest reliability. We also investigated whether the tool distinguishes between professionals working in forensic and civil mental healthcare.

Method

The study was approved by the ethics committee of the Faculty of Social Sciences of the Radboud University in Nijmegen, the Netherlands, reference number ECSW-2020-137.

Development of the Forensic Vigilance Estimate

The items contained within the Forensic Vigilance Estimate (FVE) were based on the study by Clercx et al. (2021). Their aim was to capture the construct of forensic vigilance by means of prototypicality analysis, investigate its construct validity and provide a first definition of the construct. The authors created a series of statements in several consensus meetings, based on their own professional experience, conversations with other forensic mental health professionals, consultation with international experts and (non-scientific) literature. This resulted in a total of 30 statements ("Forensic vigilance is…"), which were presented to 700 Dutch forensic professionals by means of an online survey. For each statement, professionals had to indicate the degree to which the statement represented forensic vigilance on a Visual Analogue Scale (VAS; Crichton, 2001), ranging from 0 (mm) to 100 (mm). Participants were also asked to choose the five statements most representative of forensic vigilance. These top five choices showed a large overlap with the agreement with statements on the VAS scales. This resulted in 15 items which all scored 70 mm or more. A mean endorsement score of 70 or higher was chosen because this would reflect that a clear majority of the respondents thought the statement covered an aspect of the term forensic vigilance, though would not be too stringent. Internal consistency of the 15 items was .844 (range of the individual items .828 – .845), which may be considered good. Finally, participants were also provided with an open-ended question asking whether there would be any aspects of forensic vigilance that were not reflected in the statements presented. No items were added as most participants either indicated an aspect that was already covered, or mentioned an aspect that was not mentioned by (many) other respondents. The resulting 15 items were converted into items to develop the FVE.

Procedure

Data were collected by means of an online survey via SurveyMonkey. The survey was advertised on professional networks such as LinkedIn, the intranet pages of forensic mental healthcare institutions, KNAPP[2], the personal networks of the authors, and closed social media groups on Facebook and Twitter. Professionals working in the field of forensic mental healthcare in the Netherlands were invited to participate in the main survey. Additionally, the survey was advertised with a different text among professionals working in non-forensic mental healthcare as a comparison group, which was advertised on intranet pages of civil institutions, and distributed through personal networks of the authors as well. The non-forensic professionals were included to research whether there are indeed differences on the Forensic Vigilance Estimate between forensic and non-forensic professionals as a group. The construct of forensic vigilance entails the hypothesis that all professionals working in forensic mental healthcare would need forensic vigilance. A measurement for forensic vigilance would be expected to show that difference. A comparison with a group of non-forensic professionals on the target instrument was considered more informative than within group-differences in the group of forensic professionals.

A statement of "Who can participate" was included to explain to participants who was eligible for participation in which survey. Calls to participate were repeated every 6 weeks for 3 months to increase participation.

Participants were first presented with a digital informed consent upon surfing to the survey link providing information about the purpose of the study, the expected completion time, responsible researchers including contact information, ethical permission details, and the type of questions in the survey. Participants were free to stop participation at any time, and participation was anonymous. Participants had to indicate they had read, understood and agreed with the information given in the informed consent by clicking a box. They also had to indicate that they were 18 years of age or older. If one of these two conditions was not met the survey was redirected to the end.

Next, participants answered background questions about their age, institution of employment and years of experience in forensic and non-forensic mental health care. The participants also answered questions about the team composition, team stability, the work experience of the team, and the trust they have in the team. Participants were invited to participate in a test-retest of the measure, and if they agreed, they entered an email address to which the invitation for the repeated measure could be sent. After these background questions participants were presented with the FVE.

As an incentive for participation, participants could enter a lottery upon completion of the survey. Individual participants could win one of three gift certificates worth €50 for an online store. Additionally, teams/departments/divisions from which six or more colleagues participated could win one of three cakes delivered by an online bakery. The

2 A professional network based on the concept of social media specifically developed for forensic mental healthcare professionals in the Netherlands.

URL for the lottery was separated from the survey, presented on the final page, and the personal details that were gathered to select and contact lottery winners could not be connected to survey answers.

The repeated measurement (test-retest), which was for forensic professionals only, included all of the previous described steps including the lottery. Participants completed the repeated measure on average 11.99 days after the first measurement (range 1 to 37 days).

Participants

Participants included forensic and non-forensic professionals. A subsample of the forensic mental healthcare professionals also completed the repeated measurement. Not all participants who started the survey were included in the analysis. Reasons for exclusion included: not agreeing with the informed consent, age below 18, not answering any background questions, not answering any questions after the demographic section, or failing to complete the FVE. Table 1 provides details as to the number of participants excluded for each of the reasons listed.

Table 1

Participants excluded from analysis per group of subjects, specified per reason

	N (% of initial total)		
	Forensic professionals	*Repeated measurement (forensic professionals)*	*Non-forensic professionals*
N at start	539	183	160
Did not agree with informed consent	3 (0.56%)	1 (0.55%)	0
Entered study twice, incomplete entry removed	11 (2.04%)	2 (1.09%)	0
Stopped after informed consent	44 (8.16%)	11 (6.01%)	15 (9.38%)
Age below 18	1 (0.19%)	0	0
Only completed demographic questions	60 (11.13%)	5 (2.73%)	11 (6.88%)
Did not complete FVE	53 (9.83%)	8 (4.37%)	9 (5.63%)
No corresponding entry in main data	N.a.	2 (1.09%)	N.a.
Indicated to work at a forensic institute	N.a.	N.a.	31 (19.34%)
Total number of participants in analyses	367 (68.09%)	154 (84.15%)	94 (58.75%)

Note. N.a. = not applicable.

After removing excluded participants, the total sample consisted of 367 forensic professionals, of whom 154 participated in the test-retest data collection. A total of 94 professionals participated in the survey for the non-forensic group. Participant demographic characteristics are listed in Table 2.

Table 2
Demographic characteristics of the participants

		Forensic psych. prof. N = 367	***Test re-test N = 154***	***Non-forensic profs N = 94***
		μ (SD)	*μ (SD)*	*μ (SD)*
Age in years		39.02 (11.23)	40.56 (11.98)	38.29 (10.18)
Years of experience (general)		12.42 (9.38)	13.66 (9.59)	11.77(9.08)
Years of experience (forensic)		8.78 (7.41)	9.29 (8.31)	N.a.
		Frequency (%)	*Frequency (%)*	*Frequency (%)*
Gender	*Male*	126 (34.3%)	56 (36.4%)	18 (19.1%)
	Female	241 (65.7%)	98 (63.6%)	76 (80.9%)
Type of institute	*High secure forensic hospital*	136 (37.1%)	62 (40.3%)	N.a.
	Medium secure forensic hospital	82 (22.3%)	32 (20.8)	N.a.
	Low secure forensic hospital	32 (8.7%)	11 (7.1%)	N.a.
	Forensic assisted living	39 (10.6%)	13 (8.4%)	N.a.
	Forensic outpatient service	38 (10.4%)	25 (16.2%)	N.a.
	Other services (addiction/probation etc.)	40 (10.6%)	11 (7.1%)	39 (45.7%)
	Housing service	N.a.	N.a.	17 (18.1%)
	Psychiatric hospital or psychiatric ward in regular hospital	N.a.	N.a.	38 (40.4%)
Professional role	*Role on ward/housing unit (e.g. forensic psychiatric nurses/group leader etc.)*	218 (59.4%)	93 (60.4%)	36 (38.3%)
	Treatment/therapy (e.g. psychologist, psychiatrist, (arts) therapist, work supervisor etc.)	53 (14.4%)	20 (13.0%)	16 (17.0%)
	Treatment coordination (e.g. treatment coordinator, lead psychologist)	20 (5.4%)	12 (7.8%)	2 (2.1%)
	Management role (e.g. (ward) manager, director etc.)	25 (6.8%)	13 (8.4%)	3 (3.2%)
	Supporting role (e.g. security, ICT, policy, legal, administrative, HR roles etc.)	15 (4.1%)	3 (1.9%)	1 (1.1%)
	In outpatient treatment	36 (9.8%)	13 (8.4%)	36 (38.3%)
Previous service user	*No*	351 (95.6%)	149 (96.8%)	90 (95.7%)
	Yes	16 (4.4%)	5 (3.2%)	4 (4.3%)

Statistical analyses

To investigate the reliability of the FVE, a computed internal consistency (Cronbach's α) and split-half reliability analysis was utilized. Exploratory Factor Analysis (EFA) with oblimin rotation and computed the test-retest reliability was also used. The differences between forensic and non-forensic participants scores compared using one-way ANOVA.

The data were not normally distributed as distributions were skewed to the left for most items. For most of the analyses non-normality was not considered problematic, however, identifying outliers cannot be done reliably in skewed distributions utilizing conventional methods. A reflected square root transformation resulted in acceptable ranges for skewness and kurtosis. Of the transformed item scores, *z*-scores were computed. Values associated with a *z*-score of -3 or lower or 3 or higher were marked as an outlier and were removed (marked as missing value) before continuing with the analyses. For most of the analyses non-normality was not problematic, and the non-transformed data were used, unless specifically indicated.

Analyses were conducted with the Statistical Package for Social Sciences (SPSS) version 27. The factor analysis was conducted in R, version 4.0.5 (2013).

Results

The internal consistency of the 15-item FVE was excellent with Cronbach's α of .903 (range if item was deleted: .891 - .931). The item-total correlation was lowest for item 14 (-.028; Tavakol & Dennick, 2011).

Split-half reliability as calculated by the Spearman-Brown coefficient was good to excellent with a value of .884.

No multicollinearity was detected, most inter-item correlations were between (approximately) .30 and .70, except for item 14 which barely correlated with other items. The range of Pearson *r* correlations, excluding item 14, was .291-.767. Between item 1 and item 2 of the FVE a correlation of .767 was found, the range of Pearson *r* correlations excluding this single high correlation, was .291-.693. These values did not indicate multicollinearity.

Due to non-normality (Shapiro-Wilk < .05 for all variables), EFA was conducted with ordinary least squares (OLS) instead of maximum likelihood (ML), for both versions separately. Bartlett's sphericity test was highly significant and Kaiser-Meyer-Olkin factor adequacy was .95, allowing us to conduct EFA as planned. EFA with one, two and three factors was conducted. Item 14 did not load on any factors in any of the models (factor loadings < .20), and was excluded to calculate the best fitting model. The one factor model resulted in the highest proportion explained variance and best model fit indices. Factor loadings of all items, excluding item 14, ranged between .59 and .84 and a proportion of explained variance of 52%. RMSEA indicated moderate fit at .091 (90% CI[.081, 0.102]), the SRMR indicated excellent fit (.05), and the TLI (.91) and CFI (.92) indicated good fit (Schermelleh-Engel et al., 2003). See Table 3 for factor loadings of the items.

Table 3
Factor loadings of items in Exploratory Factory Analysis

Item	***Factor loading***
Item 1: I am/my team is able to recognize even subtle signs of impeding danger or possible escalation.	**.79**
Item 2: I know/my team knows when an observation requires action.	**.79**
Item 3: I am/the team is able to recognize and communicate about your "gut feelings"	**.70**
Item 4: I am/the team is able to discuss doubt/uncertainty among colleagues .	**.64**
Item 5: I /the team anticipates possible ways in which a situation can escalate before it happens.	**.84**
Item 6: I am/the team is being aware of the patient, their mental disorder and their criminal history.	**.60**
Item 7: I am/the team is aware of my/their own behavior and reactions, and the effect it has on the patient.	**.71**
Item 8: I realize/the team realizes that providing healthcare in this context may sometimes go against what patients themselves feel is best.	**.67**
Item 9: I am/the team is able to understand behavior in the context of the forensic setting where the patient is staying.	**.76**
Item 10: I/my team actively observe(s) my/their colleagues and surroundings.	**.70**
Item 11: I am/the team is being "hyperalert" in order to prevent incidents.	**.84**
Item 12: I dare/the team dares to be assertive.	**.69**
Item 13: I am/the team is aware of what may serve as concealed storage for contraband.	**.59**
Item 15: I realize/the team realizes how patients can influence each other negatively.	**.68**
Item excluded from model - item 14: Patients know which employees are more or less forensically aware.	-.02

Factor loadings above .40 are printed in bold.

The test-retest reliability was computed per item, which were significant ($p < .01$). Pearson's r ranged between .559 and .750 demonstrating moderate to acceptable test-retest reliability. Test-retest reliability of the total score was good (Pearson's r .809).

No significant differences were found in terms of years of experience in general mental healthcare or age between forensic professionals and non-forensic psychiatric professionals (see Table 1 and 2), however an expected significant difference ($p < .01$) was found in the years of experience in forensic mental healthcare. Significant group differences were found on the FVE item 1, 2, 3, 5, 9, 11, 13 and 15 (see Table 4 for details). The effect size Cohen's d ranged between small (.25, item 1) to medium (.56, item 13). The FVE total score showed a significant difference between groups, with $t(459) = 3.848$, $p = .002$, with a small effect size of .33 (Cohen's d).

Table 4

Group differences on items between forensic and non-forensic professionals

Item	***t (df) of group difference***
Item 1: I am/my team is able to recognize even subtle signs of impeding danger or possible escalation.	1.805 (118.89)*
Item 2: I know/my team knows when an observation requires action.	3.019 (124.74)**
Item 3: I am/the team is able to recognize and communicate about your "gut feelings"	2.405 (459)**
Item 4: I am/the team is able to discuss doubt/uncertainty among colleagues .	-.444 (458)
Item 5: I /the team anticipates possible ways in which a situation can escalate before it happens.	2.291 (459)**
Item 6: I am/the team is being aware of the patient, their mental disorder and their criminal history.	1.212 (459)
Item 7: I am/the team is aware of my/their own behavior and reactions, and the effect it has on the patient.	.286 (459)
Item 8: I realize/the team realizes that providing healthcare in this context may sometimes go against what patients themselves feel is best.	1.329 (458)
Item 9: I am/the team is able to understand behavior in the context of the forensic setting where the patient is staying.	2.860 (459)**
Item 10: I/my team actively observe(s) my/their colleagues and surroundings.	.996 (459)
Item 11: I am/the team is being "hyperalert" in order to prevent incidents.	2.767 (459)**
Item 12: I dare/the team dares to be assertive.	1.171 (458)
Item 13: I am/the team is aware of what may serve as concealed storage for contraband.	4.848 (459)**
Item 14: Patients know which employees are more or less forensically aware.	1.321 (156.97)
Item 15: I realize/the team realizes how patients can influence each other negatively.	2.542 (458)**

* Significant at $\alpha < .05$ ** Significant at $\alpha < .01$

Discussion

The current study builds on the study by Clercx et al. (2021) who used the 15 most endorsed items by forensic professionals to develop a tool to measure forensic vigilance. The current study investigated the psychometric properties of the Forensic Vigilance Estimate (FVE). Results indicated that the FVE has excellent internal consistency, good to excellent split-half reliability and moderate to strong test-retest reliability. The FVE seems to consist of one factor.

There was a significant difference in FVE total score between forensic professionals and non-forensic professionals. This finding indicates that forensic professionals estimate themselves as having more forensic vigilance compared to non-forensic professionals. Thus, while forensic vigilance is also relevant in non-forensic settings, as it also includes non-context specific aspects such as clinical professional decision-making and communication with colleagues, it may be more relevant for those working in a forensic setting. The finding that the group of forensic professionals scored themselves higher than the non-forensic professionals, albeit with a relatively small effect size, was expected and seems to point in the direction of the FVE possessing validity, however further studies are needed.

The FVE and appears to have good internal consistency, split-half reliability and test-retest reliability, which allows this instruments to be used in future research. The results presented here allow for further research on forensic vigilance, such as the relationship between forensic vigilance and other constructs in the fields of forensic mental healthcare and professionalism in the workplace. Future research could furthermore be directed at the relationship between personality traits and forensic vigilance, or the relationship between workplace stress and satisfaction and forensic vigilance. The FVE could also be employed to study the effects of targeted training or intervention or increasing work experience on forensic vigilance. A further area of study could be whether forensic vigilance is (temporarily) impacted by incidents, such as (high-impact) absconsions or inpatient violence or aggression incidents.

Though the study presented here shows internal reliability of the FVE, more validity research needs to be undertaken.

Limitations

The current study represents the first effort to measure forensic vigilance. With 367 included participants the study was conducted in a large sample size and allowed reflection on the reliability of the FVE. However, the current study also suffered from a number of limitations.

The first limitation is the use of self-estimate measures. Problems with self-estimate measures have long been known and include socially desirable responding, overestimating the self and selective recall (Stevens et al., 2015). Given the hypothesized nature of forensic vigilance it is difficult to design an instrument that does not include self-report. This issue should be further addressed and researched, for example by comparing observer scores to the self-estimate scores. Such a study would have to be thoroughly reviewed by

an ethical review board. Furthermore, in many areas of functioning self-estimates are predictive of ability, even though self-estimates tend to be inflated when compared with group estimates (Ivcevic & Kaufman, 2013).

Finally, the use of an online survey also allows for sampling biases. It is unknown how many professionals saw the call for participants but decided against participation. Those interested or convinced of the importance of the topic may have been more likely to participate than others. Furthermore, though we asked about their professional background, and distributed the survey through professional networks, it is possible that non-forensic professionals or even individuals not professionally employed in mental healthcare participated in the survey. Finally, due to participants choosing their own time of participation the time between repeated measures varied between participants (average 11.99 days). To decrease memory effects a 2-week interval is usually recommended, however other studies developing a competency measure in professionals have made use of a 1-week interval (see for example Van de Velde et al., 2016) which our study exceeds.

Directions for future research and implications for practice

Future studies should research the convergent and divergent validity of the FVE. Forensic vigilance should be different from the capacity to conduct structured risk assessment for example, but may show convergence with measures of professionalism in the workplace.

Other suggestions for future research include studies into the relationship between forensic vigilance in professionals and personality traits or communication styles. Forensic vigilance encompasses (among others) alertness, assertiveness and effective communication. Earlier work showed that being firm but non-judgmental and setting limits are important for forensic nurses (Bowen & Mason, 2012). On the basis thereof it could, for example, be the case that conscientiousness, extraversion and agreeableness (Masmouei et al., 2020) relate to forensic vigilance, as well as a precise and friendly communication styles (De Vries et al., 2011). This type of research could inform hiring policies, or could be informative in developing (targeted) training or supervision programs for forensic professionals. Especially interesting for the field of forensic mental health is research into resilience and forensic vigilance, since forensic professionals face aggression and other adverse incidents in their work (Bowers et al., 2011; Huitema et al., 2018). Forensic vigilance may influence how forensic professionals react to such incidents. Are more resilient professionals more vigilant, or does forensic vigilance lead to higher resilience?

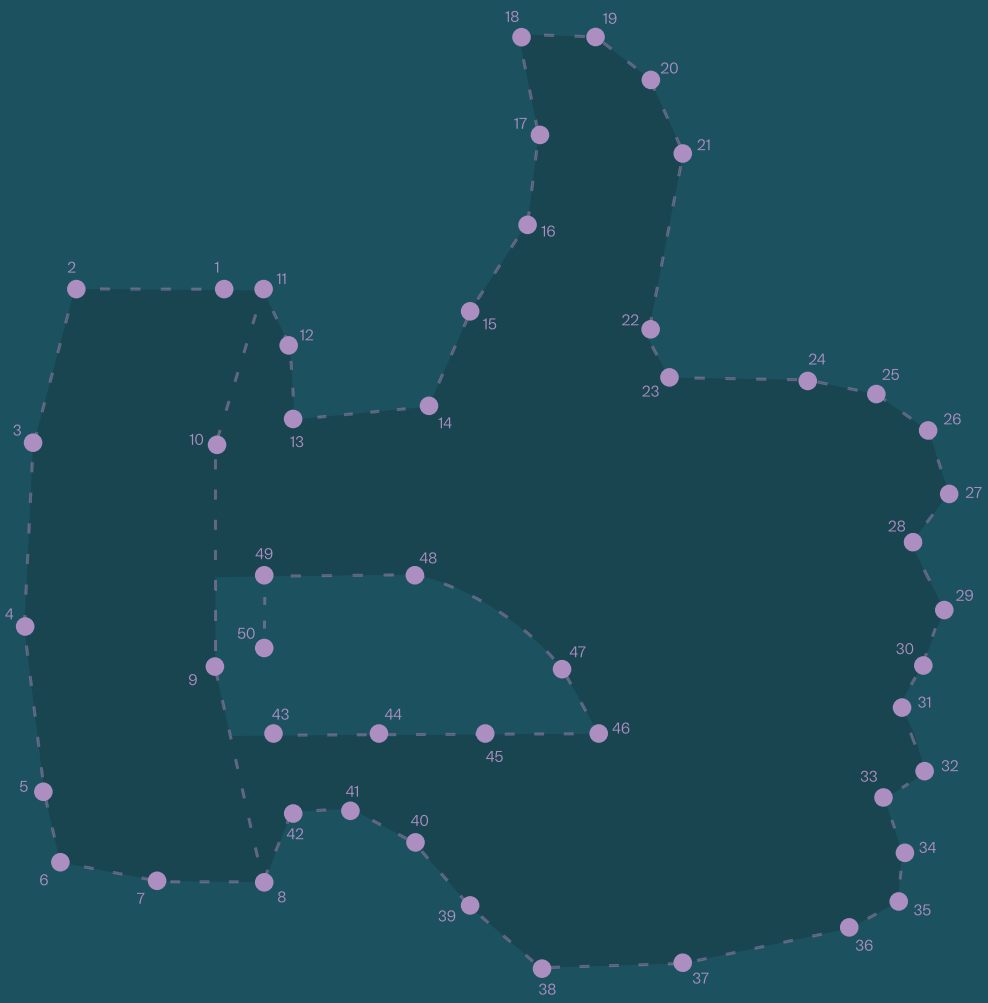
For managers and directors it may be useful to research forensic vigilance in relation to workplace related stress and burnout symptoms. The forensic work environment as a whole is often considered a stressful one, and it could be the case that the constant focus forensic vigilance requires plays a role in this. Further work could also include research into the relationship between forensic vigilance and (different types of) attention as forensic vigilance assumes certain observation skills are needed. Finally, it would be interesting to investigate whether different professional roles (e.g. forensic psychologist

mainly involved in therapy vs. forensic nurses involved in the living milieu) differ in the levels of forensic vigilance, or perhaps different aspects are more relevant for one group compared to the other.

A reliable instrument for forensic vigilance gives way to several uses in daily practice. The FVE could be used for future research (as specified above) but could also cautiously be used in hiring processes. The finding that those with exclusively non-forensic clinical work experience score lower on forensic vigilance could signal those responsible for hiring that these individuals require additional training in the forensic way of thinking. The availability of a reliable measure of forensic vigilance can furthermore be useful in developing, and for personalizing supervision and training for professionals. These could include elements were found to be important in forensic vigilance and could be evaluated and adapted with the use of the FVE. Such a training program would build or strengthen professional forensic knowledge, for example with theory, but should also focus on internal processes of the professional. For example, professionals could do exercises focused on gut feelings, how to recognize and discuss these, and how to weigh them in the decision making processes. Training programs could further include exercises in assertiveness and communication, amongst others. It seems important for professionals to exchange experiences and to create an open an safe atmosphere within the team with room for each individual's reflections and contributions.

Implications for practice:

- The Forensic Vigilance Estimate seems to be a reliable instrument for future research
- Forensic vigilance can be a topic in the hiring process
- Forensic vigilance can be used to develop and personalize supervision and training programs
- Future research could include research into the relationship between forensic vigilance and personality traits, communication styles and/or resilience.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PART II

Attributes of professionals and the workplace and their relationship to forensic vigilance


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CHAPTER 4

Relationship between Forensic Vigilance and Personality Traits, Work Experience, Burnout Symptoms, Workplace Stress and Satisfaction in Forensic Mental Healthcare Professionals

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Abstract

Purpose Forensic mental healthcare is a unique field that poses complex demands on professionals. Forensic vigilance is a hypothesized specialty of forensic mental health professionals, allowing them to meet the complex demands of working in forensic settings. Forensic vigilance consists of theoretical and experiential knowledge of mental disorders, theory of offending behavior, the criminal history of patients, and environmental observations and clinical judgment. Although this concept has only been recently described and defined, it is still unknown which professional and individual factors are related to forensic vigilance, and if forensic vigilance is related to job stress and burnout symptoms.

Approach The current study investigated whether forensic vigilance is predicted by years of work experience and the Big Five personality traits by means of an online survey among forensic mental health professionals and whether forensic vigilance is associated with work-related stress, burnout, and workplace satisfaction.

Findings The 283 forensic mental health professionals who responded to the survey indicated that forensic work experience, but not general experience, positively predicted forensic vigilance. Forensic vigilance was negatively associated with Neuroticism, and positively associated with Openness to experience and Conscientiousness. Forensic vigilance did not predict work-related stress, burnout symptoms and workplace satisfaction.

Practical implications Findings of the present study increase the understanding of the construct of forensic vigilance. The findings presented here highlight the importance of differences between professionals in terms of experience and personality. Training programs should capitalize on experience, while taking personality differences in consideration. Personality differences are relevant in hiring policies and team composition.

Originality The current study represents the first effort to study forensic vigilance in relation to personality, work experience and experienced work-place related stress and satisfaction.

Many scholars have described the uniqueness of the field of forensic mental healthcare, albeit mostly in the context of specific professional roles (Holmes, 2005; Jacob, 2012; Timmons, 2010). Although forensic psychiatric patients often present with similar mental disorders as detained non-forensic psychiatric patients, and both groups show aggression and other problematic behavior (such as fire-setting or sexual transgressions; Galappathie et al., 2017; Huitema et al., 2018; Seto et al., 2004), there are notable differences between forensic and civil settings. First, treatment in forensic settings is aimed at a reduction of recidivism risk (Andrews & Bonta, 2017), as opposed to treatment primarily aimed at symptom reduction (Van Os et al., 2019) in non-forensic settings. Second, forensic mental healthcare professionals have a dual role since they are both caregiver and have power over the patient, which also leads to an increased number of ethical dilemmas faced by the forensic mental healthcare professional (Keulen-de Vos & de Vogel, 2022; Skeem et al., 2007). Third, the field of forensic mental health is subject to scrutiny and stigmatization from both media and the general public, more often than the field of civil psychiatry (Holmes, 2005; Jacob, 2012; Mason, Coyle & Lovell, 2008; Timmons, 2010).

The highly specialized and complex field of forensic mental health may require a different mindset, attitude and approach compared to non-forensic mental health settings. This specialty may be needed by all professionals employed in forensic mental healthcare, independent of professional roles (such as "nurse" or "psychologist"). Forensic vigilance is hypothesized to both include but also transcend professional skills such as clinical decision making, which are needed in all mental healthcare settings (Lauri et al., 1999; Muir-Cochrane et al., 2011). It requires a manner of thinking which connects professional knowledge (e.g., knowledge about mental disorders and their relation to offending behavior), knowledge of the criminal history of individual patients, observations of one's surroundings and "gut feelings", and weigh them in a manner specific to the forensic context and the ability to communicate about this process (Clercx et al., 2021). Clercx et al. (2021, p. 14) named this specialty "forensic vigilance", and defined it as:

> *"Forensic vigilance is anticipating on possible escalation of a situation before it happens by actively observing your surroundings and colleagues, and knowing when an observation requires action. Forensic vigilance requires awareness of the patient(s), their mental disorder, criminal history, and awareness of the context of a forensic setting. It is being able to recognize even subtle signs of possible escalation, the capacity to communicate with colleagues about observations, doubt, uncertainty or gut feelings, and the willingness to act when necessary."*

Clercx et al. (2021) also identified elements which are part of the construct of forensic vigilance according to forensic mental healthcare professionals. However, it is still unclear if and which professional and individual factors are associated with forensic vigilance and if and how forensic vigilance is related to job stress and burnout symptoms. This information can be used in theory development but also for developing training programs to increase forensic vigilance which may ultimately reduce inpatient aggression

and recidivism risk. In this study, several factors are explored, such as professionals' years of work experience or personality traits, which may be related to forensic vigilance.

Professionalism is defined as "the conduct, aims, or qualities that characterize or mark a profession or professional person" and is associated with attitudes, knowledge, and behaviors that underlie successful clinical practice (Cornett, 2006, p. 301). Forensic vigilance is, along that line, hypothesized to be pivotal for levels of professionalism in forensic mental healthcare professionals. A study among registered nurses showed that, among others, years of work experience significantly contribute to professionalism (Wynd, 2003). In Clercx et al.'s (2021) study, professionals' knowledge of patient's history and signs of current escalation in individual patients were found to be important attributes of forensic mental healthcare professionals. These types of knowledge may improve with years of work experience as practitioners further develop their level of awareness and vigilance. Furthermore, 59% of forensic mental healthcare professionals believe that forensic vigilance increases with work experience (Clercx et al., 2021). It would be expected that years of work experience in forensic mental healthcare will positively relate to forensic vigilance.

Similarly, personality traits may show a relationship with forensic vigilance. One of the most influential models in personality theory and research is the Big Five model of personality, which specifies that there are five dimensions to personality: Neuroticism, Extraversion, Openness to experience, Agreeableness and Conscientiousness (Pérez-Fuentes et al., 2019). Research indicates that forensic mental healthcare professionals believe that alertness, assertiveness and effective communication are important in forensic vigilance (Clercx et al., 2021). Being firm, setting limits and being non-judgmental (amongst others) were important for forensic nurses in comparison to non-forensic nurses (Bowen & Mason, 2012). These traits may come more naturally to those high in certain personality traits. Professionalism in nurses was positively related to extraversion, conscientiousness and agreeableness but inversely related to neuroticism (Masmouei et al., 2020). Another study showed that staff members who score high on conscientiousness, extraversion and agreeableness were less involved in medical accidents, while those scoring high on neuroticism were more involved in medical accidents (Babaei et al., 2018). Although medical accidents are different from incidents in forensic hospitals, both share characteristics, such as the role of protocols and rules and required attentiveness from employees. Since forensic vigilance is also hypothesized to aid in the prevention of incidents, personality traits may relate to forensic vigilance in a similar manner. It is expected that higher levels of extraversion, conscientiousness and agreeableness will be related to higher levels of forensic vigilance, while neuroticism would be inversely related to forensic vigilance.

Conversely, it is expected forensic vigilance influences how the forensic mental healthcare professionals experience their work. As stated earlier, the field of forensic mental healthcare is one with complex demands and violence and aggression, especially verbal aggression, towards healthcare professionals are common in forensic mental

health settings compared to non-forensic settings (Bowers et al., 2011; Haines et al., 2017; Nicholls et al., 2009; Nijman et al., 2005). Being exposed to aggression can have detrimental effects on the social-emotional functioning of the professionals with some reporting higher levels of anxiety and sadness, lower job satisfaction, and increased occupational stress (Edward et al., 2014; Lanctôt & Guay, 2014; van Leeuwen & Harte, 2017). Furthermore, forensic mental healthcare professionals generally experience a high emotional and general workload and high work pressure (AEF, 2018; de Vogel & Bosker, 2019). Remarkably, several studies find that forensic nurses do not experience particularly high levels of stress and burnout (Happell, Pinikahana, & Martin, 2003; Lauvrud et al., 2009) and show higher levels of job satisfaction than non-forensic nurses (Happell, Martin & Pinikahana, 2003). Interestingly, the amount of violence experienced seems of little influence in the experienced levels of stress and burnout (Coffey, 1999; Dickinson & Wright, 2008). It has been suggested that those working in forensic settings may differ in how problem severity is perceived (Seto et al., 2004) and in fact may not be overly affected by violence or aggression (Dickinson & Wright, 2008). This might relate to forensic vigilance in the sense that those high in forensic vigilance are better equipped at dealing with patients who show violence and aggression because they are able to de-escalate situations more quickly or might even prevent a situation from escalating. Forensic vigilance may also allow professionals to be more resilient when they do face violence and aggression. Studies among prison staff found that professionalism has a negative relationship with job stress (Paoline & Lambert, 2012). It is expected those high in forensic vigilance to experience lower levels of stress and burnout symptoms. Conversely, it is also expected that those whom experience more stress and burn-out symptoms respectively, score lower on forensic vigilance as stress may decrease the ability to focus, observe and process ques.

Finally, studies showed that job satisfaction is positively correlated to assertiveness (Cho, 2014), an aspect identified as important in the construct of forensic vigilance (Clercx et al., 2021). Professionalism was also positively related to workplace satisfaction among prison staff (Paoline & Lambert, 2012). Higher levels of stress have often been demonstrated to be related to lower levels of job satisfaction (Happell, Martin, & Pinikahana, 2003; Happell, Pinikahana, & Martin, 2003; Lauvrud et al., 2009). In line with these findings we expected that forensic vigilance would be positively related to job satisfaction.

The current study

The current study aims to examine if personality traits and years of work experience relate to forensic vigilance and investigate whether forensic vigilance is related to work-related stress, burnout symptoms and workplace satisfaction. Findings from this study can further the theoretical knowledge of forensic vigilance, be informative in developing training programs for forensic vigilance and guide managerial support for professionals employed in forensic settings.

Method

The study was approved by the ethics committee of the faculty of social sciences of the Radboud University in Nijmegen, the Netherlands, with reference number ECSW-2020-137.

Procedure

Forensic mental healthcare professionals were invited to participate in an online survey on SurveyMonkey. Adverts for participants were circulated on professional networks such as LinkedIn, intranet pages of forensic psychiatric institutions, KNAPP[3], personal networks of the authors, and social media groups on Facebook and Twitter. Professionals who were currently working in the field of forensic mental health or who had worked in the field of forensic mental healthcare were invited to participate. The questionnaires (see "Materials") were in Dutch and our target population consisted of Dutch forensic mental healthcare professionals. To ensure that only forensic psychiatric professionals would participate, we included a statement "Who can participate" detailing our target population. Professionals interested in participation could enter the study at a moment of their choosing for a period of three months, during which calls to participate were repeated frequently to increase participation.

Those interested in participating were first offered a digital informed consent. The informed consent page stated information about the purpose of the study, the expected duration, ethical permission details, the type of questions that would be posed and contact information of the principal researchers was presented. We also informed participants that participation was anonymous and that they could stop the survey at any time by closing the window of their web browser. Participants had to indicate that they had read and understood the information provided and that they agreed with the terms of participation by clicking a box. They were also required to indicate that they were at least 18 years of age at the time of participation, also by clicking a box. Participants could not proceed to the main survey unless both boxes were checked and were otherwise rerouted to a thank-you message.

Next, participants were presented with background questions, such as questions about their age, and professional background. These included inquiries into the type of institution where they worked, where they worked previously, years of work experience in general and forensic mental healthcare and their professional role. Participants were then presented with the questionnaires included in the study in digital format (see "Materials").

As an incentive for participation participants could enter a lottery upon completion of the survey where participants could win one of three gift certificates of €50 (for an online warehouse). The lottery URL was different than the URL of the survey so that personal details collected in the lottery (to draw and contact winners) could not be connected to study data, which were anonymous. Participants were re-routed to the lottery URL when they completed the entire survey.

3 A professional network based on the concept of social media specifically developed for forensic professionals in the Netherlands.

Materials

The following materials were digitalized and provided to participants in the form of an online survey.

The Forensic Vigilance Estimate for Professionals. The Forensic Vigilance Estimate (FVE) utilized the 15 items found to be important by Clercx et al. (2021) and were converted into self-report items. The FVE (Clercx et al., 2022) consists of fifteen items that are scored by the participant on a visual analogue scale (VAS; Crichton, 2001) and measures Forensic Vigilance as described by Clercx et al. (2021). The scale does not have subscales, and ranges from "0 ("not good at all") to 100 ("very good"). Each item lists an aspect of forensic vigilance formulated in an affirmative manner "I am able to…" or "I know….". The internal consistency of the FVE was found to be excellent, with a Cronbach's α of .903 (range of Cronbach's α if any item was deleted: .891 - .931). Split-half reliability of the FVE was also found to be good, with a Spearman-Brown coefficient of .884. In the current sample, the internal consistency measured with Cronbach's α was .903, which is excellent. The FVE is best captured by a one-factor model (RMSEA indicated moderate fit at .091 (90% CI[.081, 0.102]), SRMR indicated excellent fit with .05, and the TLI (.91) and CFI (.92) indicated good fit; Schermelleh-Engel et al., 2003) with a proportion of explained variance of 52% (Clercx et al., 2022).

Work experience in years. Participants were asked to indicate the number of years of work experience they have (had) in both general and in forensic mental healthcare.

The NEO-Five Factor Inventory. The NEO-Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992; McCrae & Costa, 2004, 2011) was included to measure participant's personality traits according to the Big Five model. The NEO-FFI consists of 60 items, which are scored on a five-point scale (totally disagree to totally agree). The NEO-FFI has five subscales each consisting of 12 items: Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness. Neuroticism relates to anxiety, self-consciousness and stress tolerance. Extraversion relates to how much one enjoys the company of others. Openness to experience relates to open-mindedness about emotions, unusual ideas, and having a rich imagination, curiosity and willingness to try new things. Agreeableness indicates a desire for social harmony, striving to get along with others and kindness, generosity, and trustworthiness. Finally, Conscientiousness relates to (self-)discipline, an ability to control impulses and a preference for planning (McCrae & Costa, 2004; 2011).

Test-retest reliability of the NEO-FFI after two weeks is high, ranging between 0.86 to 0.90 for subscale scores, and the internal consistency ranges from acceptable to good (Cronbach's α between 0.68 to 0.86; Costa & McCrae, 1992; McCrae & Costa, 2004). The internal consistencies measured by Cronbach's α in our sample ranged between .68 and .87 for the different subscales.

The Demands and Support Questionnaire. To measure work related stress, the Demands and Support Questionnaire (DSQ; Rose, 1999) was used. The DSQ is a 41-item questionnaire designed to measure well-being and job-related stress, which was translated in Dutch by De Looff et al. (2018). The DSQ consists of 7 subscales divided over two domains: demands and support. In this study, we did not use the individual subscales but only the mean scores of the two domains. Based on the occupational stress model the idea behind the two domains is that an increase in job-related demands will increase job-related stress, while an increase in job-related supports can curb job-related stress (De Looff, 2018; Rose, 1999). For example, a professional being responsible for a large number of patients or experiencing high work pressure (the feeling that there is too much work for the time available) would increase the demands total score, while experiencing freedom and autonomy in decision-making and support from colleagues would increase the support score. In a sample of Dutch psychiatric nurses the internal consistency measured by Cronbach's α was.84 for the Demands scale and .62 for the Supports scale (De Looff et al., 2018). In our sample, the Cronbach's α was .89 for the Demands scale and .90 for the Support scale.

Utrechtse Burn-out Schaal voor Cliënten [Utrecht Burnout Scale for Clients]. Burnout symptoms were assessed using a validated Dutch translation of the Maslach Burnout Inventory (MBI; Maslach et al., 1996), the "Utrechtse Burnout Schaal voor Cliënten" ([Utrecht Burnout Scale for Clients]; UBOS-C; Schaufeli & van Dierendonck, 2000). The questionnaire consists of 20 items on which the respondent has to indicate how often he or she experiences this on a 7-point scale (ranging from never to always/daily). The scale consists of three subscales: emotional exhaustion, depersonalization and personal accomplishment. The Emotional exhaustion subscale measures whether individuals feel emotionally overextended or exhausted from their work. The subscale Depersonalization measures whether the responding individual feels impersonal or distant towards patients or clients who rely on their service or care. The Personal Accomplishment subscale measures whether one feels successful, experiences achievement and feels competent in their work. The Emotional exhaustion and Depersonalization subscales show a positive association with burnout, while personal accomplishment is negatively associated with burnout (MBI; Maslach et al., 1996; Schaufeli & van Dierendonck, 2000). Cronbach's α ranged between 0.64 and 0.86 for the subscales (Schaufeli et al., 2001). In our sample, Cronbach's α were .89 for the emotional exhaustion scale, .69 for the depersonalization scale and .79 for the personal accomplishment scale.

McCloskey/Mueller Satisfaction Scale. The McCloskey/Mueller Satisfaction Scale (MMSS; Mueller & McCloskey, 1990) was used to measure satisfaction with work. This scale consists of 31 items in the form of statements that respondents have to indicate how satisfied they are with that aspect of their work on a 5-point scale (very unsatisfied to very

satisfied). The MMSS was developed in 1990 and is one of the most widely used scales for measuring job satisfaction among nurses. In this study the total score was used as an indicator of workplace satisfaction. Cronbach's α in the MMSS subscales ranged between 0.71 and 0.87 in a sample of 1007 Canadian nurses (Lee et al., 2016). In our sample, Cronbach's α of the total scale score was .91.

Likeliness to leave the field of forensic mental healthcare. A Likert-scale question about how likely the participant is to leave the field of forensic mental healthcare in the next two years or the next five years, and how likely the participant is to leave the field of mental healthcare in general in the next two years or the next five years was used. We used this question as a reflection of the respondent's general satisfaction with the field of forensic mental healthcare as a whole. This question could be scored on a five-point Likert scale ranging from "very unlikely" to "very likely".

Participants

Participants included professionals employed in the field of forensic mental healthcare. The survey was initiated 539 times. However, not all those who began the survey were included in the analyses. Reasons for exclusion were: not agreeing with the informed consent (*N* = *3,* 0.5%), entering the study twice (incomplete submission removed; *N* = 11, 2.0%), being younger than 18 years of age (*N* = 1, 0.2%), not answering any demographic questions (*N* = 44, 8.2%), not answering any questions after the demographic section (*N* = 60, 11.1%), failing to complete the FVE (*N* = 53, 9.8%) or not completing the other measures in the study (*N* = 84, 51.6%). A total of 283 participants remained in the analysis. Please see Table 1 for the demographic characteristics of the participants.

Table 1
Demographic characteristics of the participants

		Forensic mental healthcare professionals N = 283
		μ (SD)
Age in years		38.87 (11.47)
Years of experience in mental healthcare (non-forensic)		12.41 (9.36)
Years of experience in forensic mental healthcare		8.87 (7.49)
		Frequency (%)
Gender	*Male*	86 (30.4%)
	Female	197 (69.6%)
Type of institute	*High secure forensic hospital*	110 (38.9%)
	Medium secure forensic hospital	59 (20.8%)
	Low secure forensic hospital	22 (7.8%)
	Forensic assisted living	33 (11.7%)
	Forensic outpatient service	28 (9.9%)
	Probation services	3 (1.1%)
	Forensic addiction service	6 (2.1%)
	Other	22 (7.8%)
Professional role	*Role on ward/housing unit (e.g. forensic psychiatric nurses/ group leader etc.)*	172 (60.8%)
	Role in treatment/therapy (e.g. psychologist, psychiatrist, (arts) therapist, work supervisor etc.)	40 (14.1%)
	Role in treatment coordination (e.g. treatment coordinator, lead psychologist)	16 (5.7%)
	Management role (e.g. (ward) manager, director etc.)	20 (7.1%)
	Supporting role (e.g. security, ICT, policy, legal, administrative, HR roles etc.)	6 (2.1%)
	Role in outpatient treatment	29 (10.2%)
Patient contact	*Mainly patient contact*	223 (78.8%)
	Frequent patient contact	50 (17.7%)
	Incidental patient contact	9 (3.2%)
	No direct patient contact, but frequent insight in patient files	1 (0.4%)
	No direct patient contact	0 (0.0%)
Previous service user	*No*	268 (94.7%)
	Yes	15 (5.3%)

Analyses

Analyses were conducted with Statistical Package for Social Sciences (SPSS) version 27.0. Several regression analyses were conducted utilizing the total scores (or subscale total scores) of each measure. A multiple regression with forensic vigilance (FVE total score) was conducted as an output variable, with years of work experience in step one and the five NEO-FFI scales in step two as predictors. Next, a series of regression analyses, where the five NEO-FFI scales (in step one) and forensic vigilance (FVE total score; in step two) were used to predict the scores on the DSQ (demands and support scale scores separately), the MMSS total score, the UBOS-C (emotional exhaustion, depersonalization and personal accomplishment separately) and the likelihood that the participant will leave the sector of forensic mental healthcare in the next two or five years separately as outcome variables. Finally, a regression analysis with the DSQ subscales, the UBOS-C subscales and the MMSS as independent and forensic vigilance (FVE total score) was used as an outcome variable.

The FVE scores were distributed normally, as were those of both subscales of the DSQ, the MMSS total score, the years of work experience in general and forensic mental healthcare, and the five subscales of the NEO-FFI. The emotional exhaustion and depersonalization subscales of the UBOS-C were skewed to the right (positive skew), while the personal accomplishment subscale was skewed to the left (negative skew). Logarithm transformation of the emotional exhaustion and depersonalization scales and squaring the personal accomplishment scales were sufficient in approaching normality of scores on these scales. Transformed scores were used in all analyses (unless specified otherwise). *Z*-scores were computed for all scale scores (transformed scale scores in case of the UBOS-C scales). Values associated with a *z*-score of -3 or lower or 3 or higher were marked as outliers and removed (marked as missing value) before continuing with the analyses. No multicollinearity was detected in any of these models (VIF range 1.029 – 1.680). To correct for multiple testing we adjusted the level of significance from α .05 to .01.

Results

The models predicting forensic vigilance total score were significant when only work experience in both general and forensic mental health care were added to the model ($F(2) = 5.472$, $p = .005$), but were also significant when the five scales of the NEO-FFI personality inventory were added in step 2 ($F(7) = 8.864$, $p = .000$). See Table 2 for the results of the multiple regression analyses predicting forensic vigilance. The model with forensic work experience explained 4.3% of the variance in forensic vigilance, while the model that included work experience and the personality scales (NEO-FFI) explained 20.6% of the variance. In both models only experience in the forensic mental health field was a significant predictor (see Table 2), while experience in the general mental health field was non-significant in both. Of the NEO-FFI personality inventory subscales,

Neuroticism total score, Openness to experience total score and Conscientiousness total score were significant predictors of forensic vigilance total score, but Extraversion total score and Agreeableness total score were not. Neuroticism had a negative *B* coefficient indicating that higher forensic vigilance was related to lower Neuroticism.

Table 2
Regression analyses of the effects of work experience in forensic mental healthcare and the Big Five personality traits on forensic vigilance

***N* = 283 forensic mental healthcare professionals**								
Outcome	**Model**	***F (df)***	***R²***	**ΔR^2**	**Predictors in model**	***B (SE B)***	**95% *CI***	***t***
Total self-reported forensic vigilance	1	5.472 (2)*	.043	.	*Constant*	1110.923 (16.111)	1079.189 – 1142.658	68.954*
					Experience in general mental healthcare (in years)	-.230 (1.291)	-2.773 – 2.314	-.178
					Experience in forensic mental healthcare (in years)	4.277 (1.576)	1.171 – 7.382	2.713*
	2	8.864 (7)*	.206	.163	*Constant*	637.239 (154.117)	333.638 – 940.840	4.135*
					Experience in general mental healthcare (in years)	-.836 (1.202)	-3.204 – 1.531	-.696
					Experience in forensic mental healthcare (in years)	3.977 (1.482)	1.058 – 6.896	2.684*
					NEO-FFI Neuroticism	-3.450 (1.456)	-6.319 – -.581	-2.369*
					NEO-FFI Extraversion	1.712 (1.863)	-1.958 – 5.381	.919
					NEO-FFI Openness	4.079 (1.525)	.1.076 – 7.083	2.676*
					NEO-FFI Agreeableness	.936 (2.109)	-3.218 – 5.090	.444
					NEO-FFI Conscientious-ness	6.515 (1.794)	2.981 – 10.048	3.632*

Note. * $p < .01$.

The models predicting DSQ Demands and DSQ Support were both significant, but the only significant predictor was NEO-FFI Openness as a predictor of DSQ Demands. None of the other personality traits were significant. Forensic vigilance was a significant

predictor for DSQ Demands, though with a very low coefficient and the significance level was not below .01. Significance was lost after correction for multiple testing (adjusting the level of α from .05 to .01). The models predicting UBOS-C Emotional Exhaustion, UBOS-C Depersonalization and UBOS-C Personal Accomplishment were all significant. In these models the only significant predictor after correction for multiple testing was the Big Five personality trait Neuroticism, which was a significant predictor of Emotional Exhaustion and Depersonalization. UBOS-C Personal Accomplishment only showed significance for the overall model, but none of the predictors were significant. Both models predicting Workplace Satisfaction measured by the MMSS were significant, whereby NEO-FFI Extraversion, Openness and Agreeableness were significant. The intention to leave the field of forensic mental healthcare could not be significantly predicted, neither within two nor five years. See Table 3 for the results of using the NEO-FFI personality traits and forensic vigilance to predict DSQ, UBOS-C, MMSS and the intention to leave the field of forensic mental healthcare in two and five years.

The model predicting forensic vigilance on the basis of measures of stress, burnout symptoms and workplace satisfaction was significant. The UBOS-C Personal Accomplishment was a significant predictor showing a small positive relationship with forensic vigilance. Workplace satisfaction measured with the MMSS was not a significant predictor, neither were the DSQ scales or UBOS-C Depersonalization and Emotional Exhaustion (see Table 4).

Table 3

Regression analyses of the effects of the Big Five personality traits and forensic vigilance on work-related stress (DSQ), burnout symptoms (UBOS-C), work-related satisfaction (MMSS) and likeliness of leaving the field of forensic mental healthcare in the next years

***N* = 283 forensic mental healthcare professionals**									
	Outcome	**Model**	***F (df)***	***R²***	**ΔR^2**	**Predictors in model**	***B (SE B)***	**95% *CI***	***t***
Work-related stress	*DSQ Demands Scale*	1	6.771 (5)*	1.24	.	*Constant*	51.652 (12.659)	26.715 – 76.588	4.080*
						NEO-FFI Neuroticism	.317 (.119)	.082 - .552	2.662*
						NEO-FFI Extraversion	-.133 (.156)	-.441 – .175	-.852
						NEO-FFI Openness	.393 (.127)	.143 – .643	3.102*
						NEO-FFI Agreeableness	-.330 (.176)	- .676 – .017	-1.872
						NEO-FFI Conscientiousness	-.124 (.150)	-.419 – .171	-.055
		2	6.640 (6)*	1.43	.19	*Constant*	42.606 (13.138)	16.724 – 68.488	3.243*
						NEO-FFI Neuroticism	.371 (.120)	.134 – .608	3.084*
						NEO-FFI Extraversion	-.156 (.155)	-.462 – .150	-1.004
						NEO-FFI Openness	.339 (.128)	.087 – .590	2.654*
						NEO-FFI Agreeableness	-.331 (.174)	-.675 – .012	-1.899
						NEO-FFI Conscientiousness	-.196 (.152)	-.495 – .102	-1.294
						FVE-R Forensic Vigilance	.012 (.005)	.002 – .023	2.317*

N = 283 forensic mental healthcare professionals									
	Outcome	**Model**	***F (df)***	***R²***	**ΔR^2**	**Predictors in model**	***B (SE B)***	**95% *CI***	***t***
Work-related stress	*DSQ Support Scale*	1	2.238 (5)	.045	.	*Constant*	35.944 (9.468)	17.292 – 54.596	3.796*
						NEO-FFI Neuroticism	-.089 (.089)	-.264 – .087	-.993
						NEO-FFI Extraversion	.137 (.118)	-.095 – .369	1.164
						NEO-FFI Openness	.077 (.095)	-.110 – .265	.814
						NEO-FFI Agreeableness	.174 (.132)	-.086 – .435	1.317
						NEO-FFI Conscientiousness	.043 (.113)	-.179 – .266	.383
		2	1.859 (6)	.045	.00	*Constant*	36.226 (9.921)	16.682 – 55.769	3.652*
						NEO-FFI Neuroticism	-.090 (.091)	-.269 – .089	-.992
						NEO-FFI Extraversion	.138 (.118)	-.095 – .371	1.166
						NEO-FFI Openness	.079 (.097)	-.112 – .270	.816
						NEO-FFI Agreeableness	.174 (.133)	-.087 – .435	1.315
						NEO-FFI Conscientiousness	.046 (.116)	-.182 – .274	.394
						FVE-R Forensic Vigilance	-.000 (.004)	-.008 – .008	-.097

Table 3

Regression analyses of the effects of the Big Five personality traits and forensic vigilance on work-related stress (DSQ), burnout symptoms (UBOS-C), work-related satisfaction (MMSS)and likeliness of leaving the field of forensic mental healthcare in the next years (continued)

***N* = 283 forensic mental healthcare professionals**									
	Outcome	**Model**	***F (df)***	***R²***	**ΔR^2**	**Predictors in model**	***B (SE B)***	**95% *CI***	***t***
Burnout symptoms	*UBOS-C Emotional Exhaustion*	1	24.738 (5)*	.345	.	*Constant*	1.266 (.580)	.122 – 2.409	2.181
						NEO-FFI Neuroticism	.046 (.005)	.035 – .057	8.454*
						NEO-FFI Extraversion	-.006 (.007)	-.020 – .009	-.772
						NEO-FFI Openness	.014 (.006)	.002 – .025	2.324
						NEO-FFI Agreeableness	-.010 (.008)	-.026 – .006	-1.289
						NEO-FFI Conscientiousness	-.001 (.007)	-.015 – .012	-.200
		2	20.527 (6)*	.345	.000	*Constant*	1.266 (.608)	.068 – 2.464	2.082
						NEO-FFI Neuroticism	.046 (.006)	.035 – .057	8.257*
						NEO-FFI Extraversion	-.006 (.007)	-.020 – .009	-.768
						NEO-FFI Openness	.014 (.006)	.002 – .025	2.280
						NEO-FFI Agreeableness	-.010 (.008)	-.026 – .006	-1.286
						NEO-FFI Conscientiousness	-.001 (.007)	-.015 – .013	-.195
						FVE-R Forensic Vigilance	.000 (.000)	-.000 – .000	-.002

N = 283 forensic mental healthcare professionals									
	Outcome	**Model**	***F (df)***	***R²***	**ΔR^2**	**Predictors in model**	***B (SE B)***	**95% *CI***	***t***
Burnout symptoms	*UBOS-C Deperso-nalisation*	1	6.659 (5)	.125	.	*Constant*	2.765 (.772)	1.244 – 4.286	3.582*
						NEO-FFI Neuroticism	.024 (.007)	.010 – .038	3.301*
						NEO-FFI Extraversion	-.005 (.009)	-.024 – .014	-.535
						NEO-FFI Openness	-.005 (.008)	-.020 – .010	-.668
						NEO-FFI Agreeableness	-.021 (.011)	-.043 – .000	-1.951
						NEO-FFI Conscientiousness	-.011 (.009)	-.029 – .008	-1.149
		2	5.682 (6)*	.129	.004	*Constant*	2.975 (.806)	1.387 – 4.564	3.690*
						NEO-FFI Neuroticism	.022 (.007)	.008 – .037	3.054*
						NEO-FFI Extraversion	-.004 (.010)	-.023 – .014	-.468
						NEO-FFI Openness	-.004 (.008)	-.019 – .012	-.492
						NEO-FFI Agreeableness	-.021 (.011)	-.042 – .000	-1.940
						NEO-FFI Conscientiousness	-.009 (.009)	-.027 – .010	-.927
						FVE-R Forensic Vigilance	-.000 (.000)	-.001 – .000	-0.906

Table 3

Regression analyses of the effects of the Big Five personality traits and forensic vigilance on work-related stress (DSQ), burnout symptoms (UBOS-C), work-related satisfaction (MMSS) and likeliness of leaving the field of forensic mental healthcare in the next years (continued 2)

***N* = 283 forensic mental healthcare professionals**									
	Outcome	**Model**	***F (df)***	**R^2**	**ΔR^2**	**Predictors in model**	***B (SE B)***	**95% *CI***	***t***
Burnout symptoms	*UBOS-C Personal Accomplishment*	1	7.284 (5)*	.131	.	*Constant*	23.611 (362.617)	-690.693 – 737.915	.065
						NEO-FFI Neuroticism	-7.708 (3.411)	-14.427 – -.989	-2.260
						NEO-FFI Extraversion	7.029 (4.509)	-1.855 – 15.912	1.559
						NEO-FFI Openness	10.282 (3.649)	3.095 – 17.470	2.818
						NEO-FFI Agreeableness	7.641 (5.071)	-2.348 – 17.630	1.507
						NEO-FFI Conscientiousness	3.803 (4.315)	-4.698 – 12.303	.881
		2	6.487 (6)*	.140	.009	*Constant*	-147.248 (378.734)	-893.315 – 598.819	-.389
						NEO-FFI Neuroticism	-6.692 (3.467)	-13.522 – .138	-1.930
						NEO-FFI Extraversion	6.594 (4.506)	-2.283 – 15.471	1.463
						NEO-FFI Openness	9.246 (3.702)	1.953 – 16.539	2.498
						NEO-FFI Agreeableness	7.602 (5.057)	-2.361 – 17.564	1.503
						NEO-FFI Conscientiousness	2.429 (4.397)	-6.234 – 11.091	.552
						FVE-R Forensic Vigilance	.234 (.154)	-.069 – .537	1.519

N = 283 forensic mental healthcare professionals									
	Outcome	**Model**	***F (df)***	R^2	ΔR^2	**Predictors in model**	***B (SE B)***	**95% *CI***	***t***
Work satisfaction	*MMSS*	1	7.947 (5)*	.142	.	*Constant*	88.203 (14.762)	59.125 – 117.282	5.975*
						NEO-FFI Neuroticism	-.168 (.139)	-.441 – .106	-1.208
						NEO-FFI Extraversion	.614 (.184)	.253 – .976	3.347*
						NEO-FFI Openness	-.382 (.149)	-.675 – -.089	-2.572*
						NEO-FFI Agreeableness	.497 (.206)	.090 – .903	2.406*
						NEO-FFI Conscientiousness	-.072 (.176)	-.418 – .274	-.408
		2	7.252 (6)*	.153	.12	*Constant*	96.611 (15.384)	66.307 – 126.915	6.280*
						NEO-FFI Neuroticism	-.218 (.141)	-.495 – .060	-1.546
						NEO-FFI Extraversion	.636 (.183)	.275 – .996	3.473*
						NEO-FFI Openness	-.331 (.150)	-.627 – -.035	-2.201
						NEO-FFI Agreeableness	.499 (.205)	.094 – .903	2.427
						NEO-FFI Conscientiousness	-.004 (.179)	-.356 – .348	-.023
						FVE-R Forensic Vigilance	-.011 (.006)	-.024 – .001	-1.840

Table 3

Regression analyses of the effects of the Big Five personality traits and forensic vigilance on work-related stress (DSQ), burnout symptoms (UBOS-C), work-related satisfaction (MMSS) and likeliness of leaving the field of forensic mental healthcare in the next years (continued 3)

***N* = 283 forensic mental healthcare professionals**									
	Outcome	**Model**	***F (df)***	***R²***	**ΔR^2**	**Predictors in model**	***B (SE B)***	**95% *CI***	***t***
Likeliness to leave the field of forensic mental health	*In 2 years*	1	1.939 (5)	.039	.	*Constant*	2.369 (1.308)	-.208 – 4.947	1.811
						NEO-FFI Neuroticism	.015 (.012)	-.009 – .039	1.214
						NEO-FFI Extraversion	-.026 (.016)	-.058 – .006	-1.589
						NEO-FFI Openness	.011 (.013)	-.015 – .037	.847
						NEO-FFI Agreeableness	.007 (.018)	-.029 – .043	.388
						NEO-FFI Conscientiousness	-.007 (.015)	-.038 – .023	-.457
		2	1.772 (6)	.043	.004	*Constant*	1.985 (1.367)	-.709 – 4.678	1.451
						NEO-FFI Neuroticism	.017 (.012)	-.007 – .042	1.375
						NEO-FFI Extraversion	-.027 (.016)	-.059 – .005	-1.643
						NEO-FFI Openness	.009 (.013)	-.017 – .035	.657
						NEO-FFI Agreeableness	.007 (.018)	-.029 – .043	.372
						NEO-FFI Conscientiousness	-.010 (.016)	-.041 – .021	-.650
						FVE-R Forensic Vigilance	.001 (.001)	-.001 – .002	.970

N = 283 forensic mental healthcare professionals									
	Outcome	**Model**	***F (df)***	***R²***	**ΔR^2**	**Predictors in model**	***B (SE B)***	**95% *CI***	***t***
	In 5 years	1	2.112 (5)	.042	.	*Constant*	3.421 (1.403)	.657 – 6.185	2.439
						NEO-FFI Neuroticism	.005 (.013)	-.021 – .031	.352
						NEO-FFI Extraversion	-.031 (.017)	-.065 – .003	-1.783
						NEO-FFI Openness	.025 (.014)	-.003 – .052	1.755
						NEO-FFI Agreeableness	.002 (.020)	-.037 – .041	.114
						NEO-FFI Conscientiousness	-.014 (.017)	-.047 – .018	-.868
		2	1.828 (6)	.044	.002	*Constant*	3.142 (1.468)	.251 – 6.034	2.141
						NEO-FFI Neuroticism	.006 (.013)	-.020 – .033	.470
						NEO-FFI Extraversion	-.032 (.017)	-.066 – .003	-1.816
						NEO-FFI Openness	.023 (.014)	-.005 – .051	1.605
						NEO-FFI Agreeableness	.002 (.020)	-.037 – .041	.103
						NEO-FFI Conscientiousness	-.017 (.017)	-.050 – .017	-.985
						FVE-R Forensic Vigilance	.000 (.001)	-.001 – .002	.656

Note. * $p < .01$.

Table 4
Regression analyses of the effects of work-related stress (DSQ), burnout symptoms (UBOS-C) and work-related satisfaction (MMSS) on forensic vigilance

***N* = 283 forensic mental healthcare professionals**						
Outcome	***F (df)***	***R²***	**Predictors in model**	***B (SE B)***	**95% *CI***	***t***
Total self-reported forensic vigilance	5.403 (6)*	.112	*Constant*	1046.768 (123.325)	803.916 – 1289.619	8.488*
			DSQ Demands	2.280 (.949)	.411 – 4.149	2.402
			DSQ Support	-.379 (1.168)	-2.680 – 1.921	-.325
			UBOS-C Emotional Exhaustion	-36.096 (17.898)	-71.341 – -.850	-2.017
			UBOS-C Depersonalization	-24.363 (14.045)	-52.021 – 3.294	-1.735
			UBOS-C Personal Accomplishment	.095 (.028)	.039 – .150	3. 369*
			MMSS Workplace Satisfaction	.269 (.780)	-1.266 – 1.805	.345

Note. * $p < .01$.

Discussion

The construct of forensic vigilance describes an assumed specialty of forensic mental healthcare professionals, consisting of a particular mindset, attitude and approach compared to non-forensic settings, which is independent of specific professional roles (Clercx et al., 2021). Although the construct has been only recently defined (Clercx et al., 2021) it is still unknown whether forensic vigilance influences how professionals experience their job in forensic mental healthcare. In the current study, we explored if personality traits and work experience are associated with forensic vigilance.

Forensic vigilance was significantly predicted by forensic work experience alone (4.3% of the variance in forensic vigilance) and by forensic work experience and personality traits (20.6% of variance in forensic vigilance explained). This was in line with the hypothesis. Specifically, work experience in the field of forensic mental healthcare but not non-forensic mental healthcare was a significant predictor of total forensic vigilance, which shows the importance of work experience in the field of forensic mental healthcare. However, the proportion of explained variance was rather low, indicating that while work experience is important, the influence on overall forensic vigilance is small, suggesting other factors may be more important. The Big Five personality traits Neuroticism, Openness to experience and Conscientiousness were significant, while Extraversion and Agreeableness were not. The relationship with Neuroticism was negative, while the relationship with both Openness and Conscientiousness were positive. With decreasing Neuroticism forensic vigilance increased, while with increasing Openness to experience and Conscientiousness forensic vigilance was found to increase as well. All these relationships

were as hypothesized. The field of forensic mental healthcare is a field where professionals are faced with high pressure, scrutiny from others and society and physical and verbal aggression (Holmes, 2005; Jacob, 2012; Mason, Coyle & Lovell, 2008; Timmons, 2010). Since those high in Neuroticism are more susceptible to stress, also in work environments, than those scoring lower on Neuroticism (Pérez-Fuentes et al., 2019), this might explain the negative association with total forensic vigilance. Furthermore, those who score higher on Neuroticism are more likely to show irritability and frequently experience mood swings, which could possibly impact a stable therapy alliance with patients (Flückiger et al., 2018). Forensic vigilance, is a multifaceted concept which requires (amongst others) the ability to set limits, assertiveness, openness in communication and generally the ability to function in the high-demanding environment of forensic mental healthcare settings. The relationship with Openness to experience was also hypothesized since this is indicative of how open-minded a person is. Openness is required to provide care to forensic patients in the broadest sense of the word since it requires caring for individuals characterized by a history of crime and violence and a range of mental disorders without judgement. However, possibly Openness to experience relates to forensic vigilance because it influences how open-minded one is about the possibility of a situation escalating, or which places can be used for hidden storage of contraband. Conscientiousness was found to be a significant predictor of forensic vigilance, which may be explained by a high amount of focus and an ability to inhibit own impulses. Furthermore, those high in Conscientiousness are structured, plan ahead and are highly conscious of their own behavior and how this might affect others, which is also important in forensic vigilance. We hypothesized a relationship with Agreeableness, though neither Agreeableness nor Extraversion was a significant predictor. A lack of a relationship between Agreeableness and forensic vigilance indicates that striving for social harmony should not be considered important to forensic vigilance. Finally, both extravert and introvert people report similar levels of forensic vigilance.

With regards to the influence of Big Five personality traits and forensic vigilance, the models predicting work-related stress, burnout symptoms and workplace satisfaction were all significant, though when inspecting the models, very few predictors in the models were significant. Openness to experience significantly predicted work-related stress, which is in line with findings that those high in Openness to experience are more capable in regulating stress (Williams et al., 2009). With regards to burnout, both Emotional Exhaustion and Depersonalization were predicted by Neuroticism, albeit with a very low coefficient. These findings are in line with findings by Chung and Harding (2009) who found that higher levels of neuroticism are associated with higher levels of burnout symptoms. The burnout subscale Personal Accomplishment showed an expected (see e.g., De Looff et al., 2018) inverse relationship with Big Five Neuroticism and a positive relationship with Openness to experience. Workplace satisfaction showed a significant positive relationship with Extraversion and Agreeableness and a significant negative

relationship with Openness to experience. These findings are partially in line with earlier findings, as Openness to experience usually shows a positive relationship with satisfaction (e.g., Therasa & Vijayabanu, 2015).

In the models predicting work-related stress, burnout symptoms, likeliness to leave the field of forensic mental health and workplace satisfaction on the basis of Big Five personality traits and forensic vigilance, forensic vigilance was never a significant predictor. This is an unexpected finding which may actually be encouraging for managerial staff in forensic mental healthcare institutions. Since forensic vigilance is often thought of as a highly important competency (see for example AEF, 2018; Clercx et al., 2021), required of forensic mental healthcare professionals, regardless of specific professional roles, it can be interpreted positively that experienced work-related stress and burnout symptoms and workplace satisfaction are independent of forensic vigilance. Though forensic vigilance is hypothesized to be a multifaceted construct that requires continuous attention and energy from professionals, this does not affect stress and burnout symptoms or workplace satisfaction. The possibility that the relationship between forensic vigilance and stress, burnout symptoms and workplace satisfaction is non-linear and therefore did not reach significance was dismissed after inspecting all the individual scatterplots. On the other hand, when predicting forensic vigilance on the basis of work-related stress, burnout symptoms and workplace satisfaction the regression model was significant. The burnout subscale Personal Accomplishment was the only significant predictor of forensic vigilance, which shows a small positive relationship to forensic vigilance. Having a sense of personal accomplishment in the workplace therefore has a positive effect on the level of forensic vigilance in professionals.

The results of this study can be summarized as follows:

- Forensic vigilance requires a manner of thinking which connects professional knowledge (e.g., knowledge about mental disorders and their relation to offending behavior), knowledge of the criminal history of individual patients, observations of one's surroundings and "gut feelings", and weigh them in a manner specific to the forensic context and the ability to communicate about this process.
- Forensic vigilance was predicted by three of the five Big Five personality traits: positively by Openness to experience and Conscientiousness, and negatively by Neuroticism.
- Forensic vigilance was predicted by work experience in the field of forensic, mental healthcare, though this explained only some of the variance in forensic vigilance. Experience in mental healthcare in general (not specifically forensic) was unrelated to forensic vigilance.
- Forensic vigilance was unrelated to work-related stress, burnout symptoms, the likeness a professionals would leave the field of forensic mental healthcare and workplace satisfaction.

Limitations and recommendations for future research

The current study had several limitations. First, the use of an online-survey to sample forensic mental healthcare professionals allows for the possibility that non-forensic professionals have taken part in the survey (for example to take part in the lottery). To reduce this possibility, we included a statement "who can participate", used mainly professional networking sites and intranet pages of forensic institutions to advertise, and professionals had to indicate at what type of institution they work or have worked. However, this does not ensure completely that all participants were indeed mental healthcare professionals working in forensic settings, or were even professionals at all at the time of participation. Future studies should address this issue, for example by sampling in person or through institutions only. Furthermore, most participants in the study did not exclusively work in forensic mental health settings all of their career, most also had experience in general, non-forensic mental healthcare as well. The ratio of years of experience in general or forensic mental healthcare differed between professionals, however this was largely addressed by including years of experience in forensic mental healthcare and non-forensic mental healthcare in the analyses separately. Furthermore, the use of self-report measures is always prone to bias. It is for example possible that participants consciously or unconsciously overestimated their own forensic vigilance. Future studies should try to include objective measures, most importantly of forensic vigilance. This can be done for example by obtaining observations from a peer/colleague, though this might be ethically challenging and also prone to bias (e.g., if the colleague is found sympathetic by the observer, he/she might score this colleague as more skilled).

The relationship between forensic vigilance and stress, burnout symptoms and workplace satisfaction may be moderated by other factors, such as self-efficacy or resilience. Future studies should include possible moderators. Forensic work experience and the Big Five personality traits explained 20.6% of the variance in forensic vigilance. Future research should try to dissect more factors influencing forensic vigilance, in order to increase the proportion of explained variance, such as studying the role of other possibly important concepts in relation to forensic vigilance, for example the role of attention or communication skills. Furthermore, since forensic vigilance is hypothesized to play a large role in preventing aggression and other incidents, future work should focus on exploring whether this relationship actually exists and if yes, how targeted training or education can strengthen forensic vigilance.

Implications for practice

These findings can be of interest to clinical practice in several ways. First, it is recommended that a training on forensic vigilance is developed, since the construct seems central to working in the field of forensic mental health (Clercx et al., 2021). Such a training could focus on the 15 aspects identified by Clercx et al. (2021), for example how "gut feelings" may present themselves, whether these are important and how to communicate

about these with colleagues. A training could also include a focus on assertiveness, active observation of one's surroundings (which observations are "of interest" and why), how specific disorders relate to specific risks and so on. The training program should combine research findings and clinical insights, and therefore should be developed in close collaboration with professionals with many years of experience in forensic mental health care. A training program should furthermore include insights in how different personality traits relate to forensic vigilance, and how the observed relationship can be theoretically explained.

The finding that personality traits influence variance in forensic vigilance could inspire forensic mental health institutions to give (more) attention to the personality of the individual professionals. One could, for example, include personality testing in the hiring process and base hiring decisions on the outcome. Given the worldwide shortage of (mental) healthcare workers (Kakuma et al., 2011) this may not be a realistic option. However, institution directors and managers could strive to include professionals with all types of personality traits in teams, including those high in Openness to experience and Conscientiousness, and low in Neuroticism. Earlier research, albeit in a different field, shows that overall team performance is increased if the team overall scores are high on Openness to experience, Agreeableness and Conscientiousness, and if a team has mixed levels of Extraversion and Emotional stability/Neuroticism (Neuman, et al., 1999; Van Vianen & de Dreu, 2001). In this light it seems important to allow team members to learn from each other, and to regularly have time for deliberation and case conceptualization from the viewpoint of different team members. The personality profile of different team members and how this affects their way of viewing or acting in certain situations could be made explicit. Different team members can learn from other staff members with other personality profiles. Differences in personality should also be considered by managerial staff, both in how this affect's staff members individual dealings with patients and how this influences the dynamics within the professional team (Yardley, 2014). Finally, personality traits are also shown to be related to learning styles (Li & Armstrong, 2015). When offering targeted training or job-specific education those differences in personality should be assessed and training programs should be adapted where possible.

With respect to the finding that work experience in forensic, but not general, mental healthcare positively predicts a small amount of the variance in forensic vigilance, it is recommended that forensic mental healthcare institutions put attention and effort in retaining professionals with work experience in this field. Professionals with many years of work experience can be viewed as an important resource, and can be deployed to provide 'on-the-job training' to novices, or those new to the field of forensic mental healthcare specifically. These professionals may also be a valuable information source in developing a training program in forensic vigilance. The fact that work experience in non-forensic mental healthcare was unrelated to forensic vigilance does not imply that professionals with only non-forensic work experienced should be considered as prospective employee.

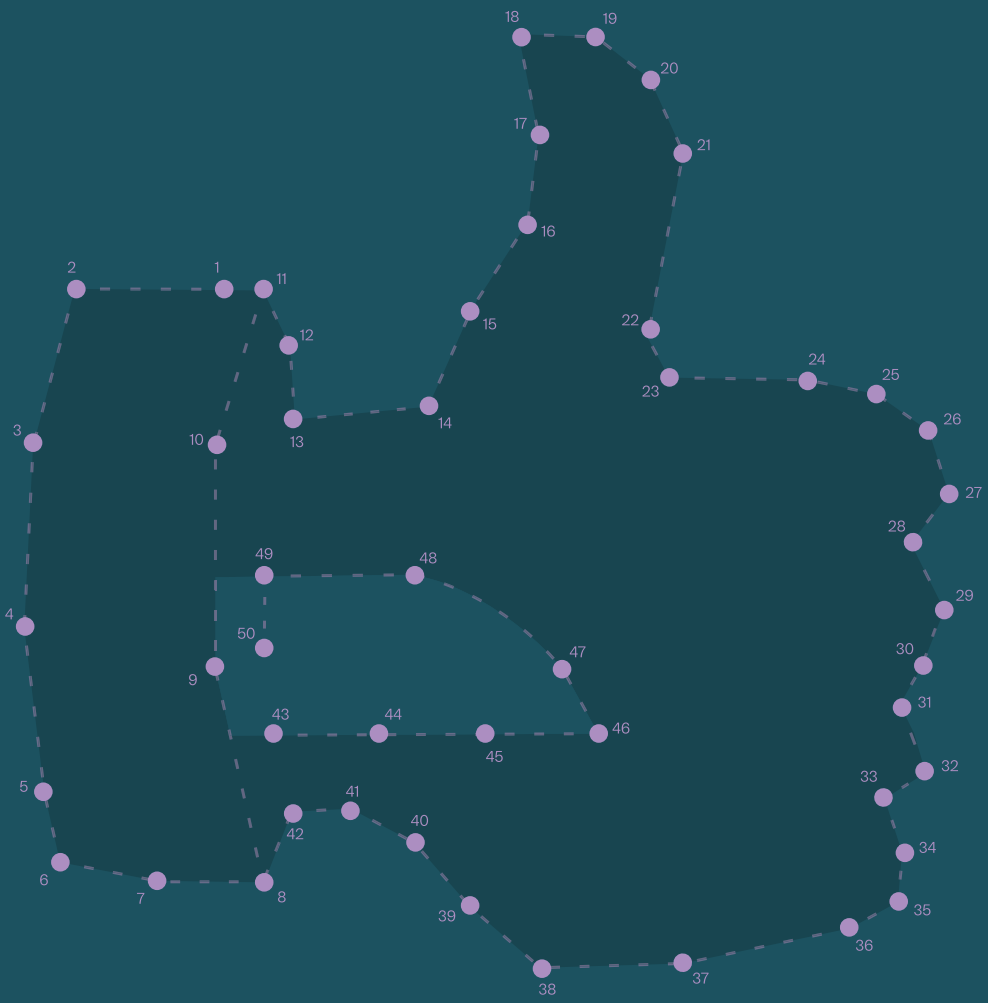
It is however recommended that institutions provide these employees with the same level of training and education as novices in the field of mental healthcare.

Finally, findings show that feelings of work-related stress, burnout symptoms, the likeness a professionals would leave the field of forensic mental healthcare and workplace satisfaction are largely unrelated to forensic vigilance. These findings are in line with earlier work which shows that dealing with violent and aggressive patients do not appear to affect forensic mental healthcare professionals as much as one would perhaps intuitively assume (Coffey, 1999; Happel, Pinikahana, & Martin, 2003). This forces forensic mental healthcare institutions to look for other causes of a highly prevalent problem (De Looff et al., 2018). These might include high administrative and bureaucratic demands and a high workload, lower levels of trust in management, strict accountability/an experienced lack of freedom in decision making, a lack of communication, a lack of facilities patients can be referred onto and "disruptions in the office" (Coffey, 1999; Forman-Dolan et al., 2022; Happell, Pinikahana, & Martin, 2003; Rodrigues et al., 2021).

Implications for practice can be summarized as follows:

- A training program for forensic vigilance could build on the experience of those with many years of experience in forensic mental healthcare
- Personality differences are relevant to consider in the hiring procedure (given practical barriers such as staff shortages)
- Teams that include people with a variety of personality traits could show improved team performance compared to teams with more unidimensional personalities
- Individual differences between professionals, for example in personality traits years of experience are relevant when considering differences in forensic vigilance, and are an important factor to consider when developing training or supervision programs
- New or (relatively) inexperienced professionals can work alongside with professionals with several years of forensic mental healthcare experience in order to benefit from their knowledge and skill
- Work experience in general (non-forensic) mental healthcare is not related to forensic vigilance, those changing from non-forensic to forensic mental healthcare and their colleagues should be aware of this

When focusing on the high prevalent problem of experienced work-related stress and burnout symptoms, focus on known influential factors (e.g. experienced autonomy) rather than forensic vigilance.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PART III

Forensic vigilance in relation to the occurrence of incidents and maintaining safety in forensic mental health settings


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CHAPTER 5

Qualitative Analysis of Severe Incidents in Forensic Psychiatric Hospitals: *Towards a Model of Forensic Vigilance*

This chapter is submitted for publication:

Clercx, M., Peters-Scheffer, N., Keulen-de Vos, M., Schaftenaar, P., Dekkers, D., van Gerwen, N., de Klerk, A., Strijbos, N., & Didden, R. (2022). Thematic Analysis of Severe Incidents in Forensic Psychiatric Hospitals: Towards a Model of Forensic Vigilance. *Submitted for publication.*

Abstract

Forensic vigilance is a hypothesized specialty of forensic mental health professionals which seems to play a role in maintaining safety in forensic hospitals. It is unclear exactly how forensic vigilance relates to preventing incidents. We used standardized reports of severe incidents that occurred in forensic hospitals to investigate how forensic vigilance plays a role in the occurrence of incidents.

Eight forensic psychiatric hospitals in the Netherlands contributed 69 anonymized incident reports, which were investigated by means of thematic analysis and interpretative phenomenological analysis.

Analysis revealed five important themes. Four core skills needed by professionals, namely observation, integration, communication and action, which each need a number of prerequisites (e.g., knowledge). The fifth theme specifies that the professional needs to "connect the dots" meaningfully. This is a highly cyclical process in which the core four skills are steps. The process is unique to the forensic context in terms of how the "dots" are connected and weighed, and which risks need to be considered.

We present a model of this process and prerequisites needed in professionals. This model can inform policy makers, aid assessment of and communication between forensic professionals and can form the basis of a training for forensic mental health professionals.

The field of forensic mental health is a highly specialized and complex work environment, which may require a different approach, skills, attitude and mindset than those required in non-forensic mental health settings. Though forensic mental healthcare settings share characteristics with civil (e.g., non-forensic) mental healthcare settings in terms of patients' mental disorders and problematic behavior (e.g., aggression, fire-setting or sexual transgressions; Galappathie et al., 2017; Huitema et al., 2018; Seto et al., 2004), there are characteristics that are unique to the forensic mental healthcare setting. First, forensic psychiatric professionals have both a custodial as well as a care providing role; a duality which has been described by many scholars as particularly profound in forensic mental health settings (O'Dowd et al., 2022; Keulen-de Vos & de Vogel, 2022; Marshall & Adams, 2018). Second, the field of forensic mental health and its patients are more often subject to scrutiny and stigmatization from both the general public and media than the field and patients of civil mental healthcare, though stigmatization also happens there (Jacob, 2012; Marshall & Adams, 2018; Timmons, 2010). However, the third and main difference is the focus on risk of recidivism and how to reduce it (Andrews & Bonta, 2017), while reduction of symptoms and increase in well-being and quality of life are the primary targets in civil mental healthcare (van Os et al., 2019).

These differences between non-forensic and forensic mental health settings may require a specialty from all professionals who are directly involved in supporting the patient on the unit and during treatment. This includes forensic mental health nurses, psychologists, psychiatrists, and occupational therapists among others. This specialty is forensic vigilance, which was defined by Clercx et al., 2021 as:

> *"Forensic vigilance is anticipating on possible escalation of a situation before it happens by actively observing your surroundings and colleagues, and knowing when an observation requires action. Forensic vigilance requires awareness of the patient(s), their mental disorder, criminal history, and awareness of the context of a forensic setting. It is being able to recognize even subtle signs of possible escalation, the capacity to communicate with colleagues about observations, doubt, uncertainty or gut feelings, and the willingness to act when necessary" (Clercx et al., 2021, p. 14).*

In forensic mental health settings, severe incidents occur on a regular basis. These can include aggression and violence, both between patients and towards staff (Huitema et al., 2018; Nicholls et al., 2009), fire setting (Gannon et al., 2012), absconsions and (attempted) escapes (Martin et al., 2018), self-harm (Dixon-Gordon et al., 2012), (attempted) suicides (Büsselmann et al., 2020; Voulgaris et al., 2018) and relationships between staff members and patients that cross professional boundaries (Adshead, 2012; Thomas-Peter & Garrett, 2000). Incidents can be detrimental for societal acceptance of forensic psychiatric treatment, can harm the therapeutic climate and treatment outcome, and can increase stress among staff (Van den Bossche et al., 2012; Bowers et al., 2011; Fluttert et al., 2010; Verstegen et al., 2020).

Preventing (severe) incidents is important, something which cannot be done solely by adhering to standardized methods alone (e.g., protocols or standardized risk assessments). Indeed, even if a protocol is available, the applicability of a standardized protocol may depend on the context and thereby on the judgement of the professional. Finally, there are many situations which may not be captured by protocols at all, and the professional only has their professional decision making to rely on. In these situations, the specific forensic context and the consideration of possible recidivism risk require specialistic knowledge, skills and attitudes of the professional. Therefore, forensic vigilance may play a role in the occurrence of incidents.

The definition of forensic vigilance presented above encompasses several aspects that refer to reducing the risk of a situation escalating into a situation that is dangerous or unlawful. Furthermore, the first study into forensic vigilance showed that statements that included "prevention of escalation and/or danger" scored high (Clercx et al., 2021). These statements included for example "Forensic vigilance is being able to recognize even subtle signs of impending danger/possible escalation" or "Forensic vigilance is anticipating possible ways in which a situation can escalate before it happens". Earlier studies have identified the relationship between incidents and known aspects of forensic vigilance, such as observation and recognizing patient-specific early signals of escalation (Fluttert et al., 2010; Lannta et al., 2016; Lowenstein, 2003), communication between professionals and patients (Fluttert et al., 2010; Gudde et al., 2015; Wilkie et al., 2014) and structured decision making (Simpson et al., 2015). Finally, the everyday use of the term forensic vigilance (or the Dutch term "*forensische scherpte*") also indicates that the construct entails a certain competency that aids in the prevention of incidents, aggression, dangerous or unlawful situations (see for example AEF, 2018; Ministerie van Jusitie en Veiligheid, 2020). However it remains unclear exactly how forensic vigilance plays a role in the occurrence of incidents.

The current study

The current study used reports of severe incidents that occurred in forensic hospitals to explore how (a lack of) forensic vigilance contributes towards occurrence of incidents. We used qualitative analysis with elements of thematic analysis and interpretative phenomenological analysis (IPA) to investigate and map the role of forensic vigilance in the occurrence of incidents. Since we expect that in different types of incidents (i.e., externalizing incidents (e.g., aggression towards others), internalizing incidents (e.g., suicide/self-harm), withdrawal from supervision (e.g., escape, absconsions, failure to return) and non-professional contact between staff member and patient, different elements of forensic vigilance may be relevant, we analyzed these four different types of incidents. Knowledge of how forensic vigilance plays a role in the occurrence of incidents can inform policy makers, allow clear communication between professionals about this process, allow further research and possibly form the basis of a training program for forensic mental health professionals.

Method

The study was approved by the ethics committee of the faculty of social sciences of the Radboud University in Nijmegen, the Netherlands, with reference number ECSW-2020-137.

Materials

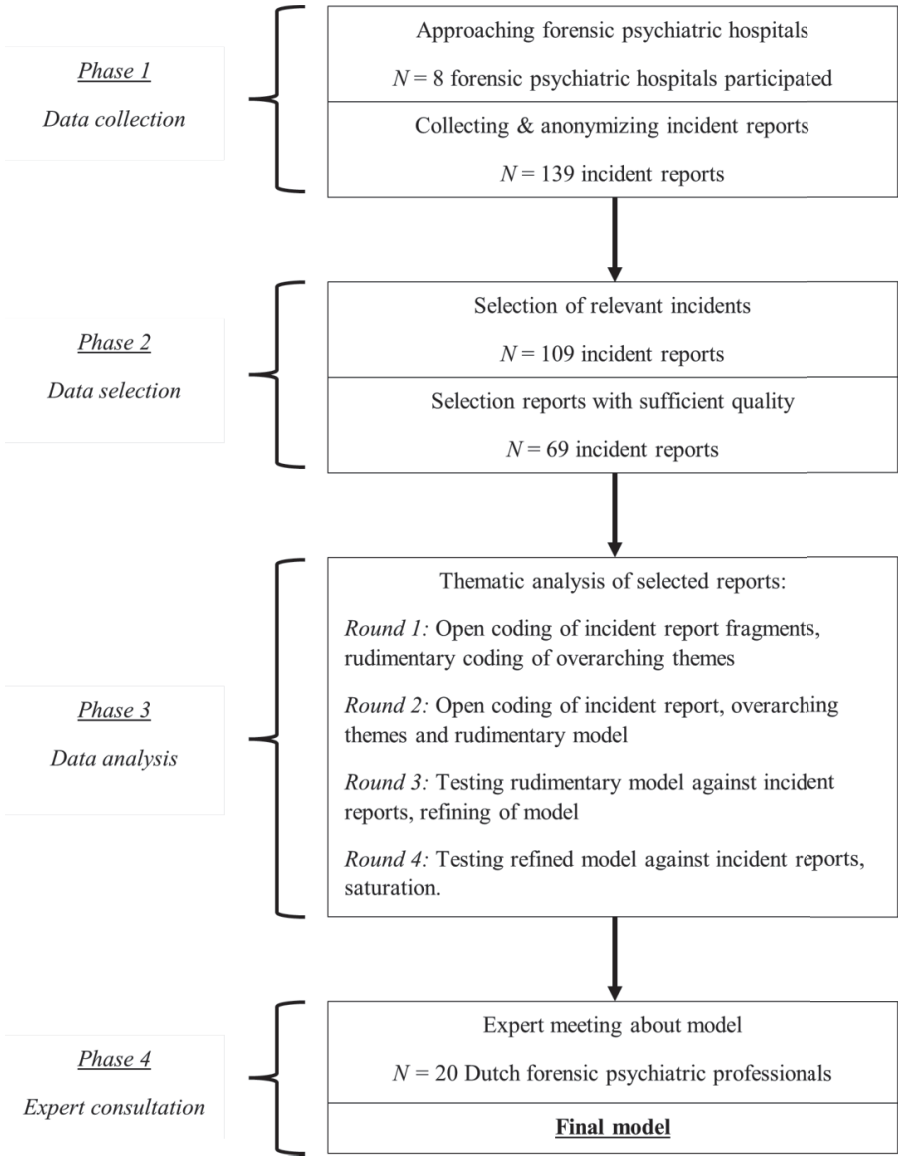
In the Netherlands, forensic hospitals are required by law to report serious incidents to the Ministry of Justice and Safety (https://wetten.overheid.nl/BWBR0010963/2019-07-16), and to Inspection services (either the Inspection of Healthcare and Youth Services or the Inspection of Justice and Safety). Next to reporting the incident, hospitals are required to carry out an investigation into possible causes of the incident, which includes making recommendations to prevent similar incidents in the future. The investigation is conducted using a standardized research method, usually Systematic Incident Reconstruction and Evaluation (SIRE) or Prevention and Recovery Information System for Monitoring and Analysis (PRISMA; Baartmans et al., 2022). This type of incident analysis is structured and involves a review of file information in combination with interviews with individuals involved in the incident. Investigations are carried out by professionals independent of the treatment of the patient(s) involved, and result in a written report. These written incident reports are used in the current study.

Typically, these incident reports contain background information about patient(s) involved (such a biographic history, diagnoses, risk factors etc.), a detailed description of the incident and the circumstances surrounding the incident, and a chronological timeline of the period leading up to the incident. The reports also contain findings from the investigation, conclusions about the cause of the incident and recommendations to prevent similar incidents in the future. For this study, we only used the anonymized background information, information of the incident and surrounding circumstances, and the chronological timeline.

Procedure

The study consisted of 4 phases (see also Figure 1):

Figure 1
Schematic overview of procedure



Phase 1: Collection and anonymization of incident reports

The 12 maximum and medium secure forensic hospitals in the Netherlands, that is Forensic Psychiatric Centers (FPC's; maximum secure) and Forensic Psychiatric Clinics (FPK's; medium secure), were approached with a request to participate in the study. The hospitals were provided with information about the study, the type of report requested, the inclusion and exclusion criteria and how the reports would be anonymized in the study. The medical director and/or managing director provided written consent for participation of the hospital in the study. In total, eight forensic hospitals participated in the study of which five high-secure and three medium secure forensic psychiatric hospitals, contributing a total of 139 incident reports (range 2 – 38 incidents submitted per hospital).

Inclusion criteria for incident reports were: the incident had taken place between January 1st 2010 and December 31st 2020, the patient involved was admitted at the forensic hospital at the time of the incident[4] (though independent living units on the hospital grounds were included), and the incident had been investigated using either SIRE or PRISMA methodology (see "Materials section"; Baartmans et al., 2022).

Reports were anonymized with respect to patient details, details of the employees involved, ward and hospital details. Information regarding the criminal background and diagnostic description of patients, professional role of employee and type of hospital/ward were retained but formulated without any traceable information. Examples of this are "patient X, age 57, born in [place in the Netherlands] suffers from schizophrenia" or "social worker A arrives at ward 1, a high-secure ward with 24-hours supervision, shortly after 15h00". Since some incidents were covered in the Dutch media, specific dates were also removed or replaced with examples such as [2 days before day of incident] or [one month before day of incident]. Finally, to strive for objectivity, findings, conclusions and recommended measures for improvement were also removed from the incident reports. Only the chronological timeline of events before the incident and the background of the patient were retained. Due to the amount of time anonymization could cost a participating hospital, the hospitals were given a choice to either conduct anonymization themselves or by one of the researchers. Two hospitals opted to have the anonymization done by one of the researchers. In both cases anonymization was done at the hospital and checked by a hospital staff member before the anonymous incident reports were transferred to the research team.

4 In the Netherlands, during later phases of treatment patients will move away from the hospital to either live independently or in an assisted living situation but remain under the formal supervision of the forensic psychiatric hospital. Though incidents can and do still occur with patients in this phase, there are several reasons why these patients were not included. First, experience learns that the frequency and quality of daily reports on which incident reports are heavily based on decreases in this phase. Second, overall provided care is often provided by several partner companies (e.g., one partner houses the patient, another provides psychotherapy and yet another provides sheltered work), and those writing an incident report often do not get access to information from partner companies. Finally, the frequency of contact strongly decreases in this phase, the patient is only seen once or twice a week by an outpatient counselor.

Phase 2: Selection of incident reports to be included in the analysis

After initial exploration of the data, the nature of the incident was classified as one of four types: externalizing incidents, internalizing incidents, withdrawal from supervision and non-professional contact between patient and staff member. Incidents which would theoretically not be related to forensic vigilance, such as medication errors, deaths by natural causes, and falling incidents were excluded (n = 30). After removal of irrelevant incidents 109 reports remained.

It furthermore became clear that some of the collected reports were of very poor quality (e.g., contained too little information for our purpose and/or were very short).

Therefore, all incident reports were read by two of the authors who scored the quality of each report as "sufficient quality to include" or "insufficient quality to include" on the basis of the presence of information about the patient involved, description of the circumstances surrounding the incident and the presence of a detailed timeline describing events preceding the incident. Pre-consensus inter-rater agreement was substantial (McHugh, 2012) with Cohen's κ = .74. Inclusion in the analysis was finally determined in a consensus meeting between these two authors. Reports of insufficient quality were excluded (n = 40), which resulted in a final n of 69 to be included in the analysis (see Figure 1).

Phase 3: Analysis of incident reports and identification of five central themes

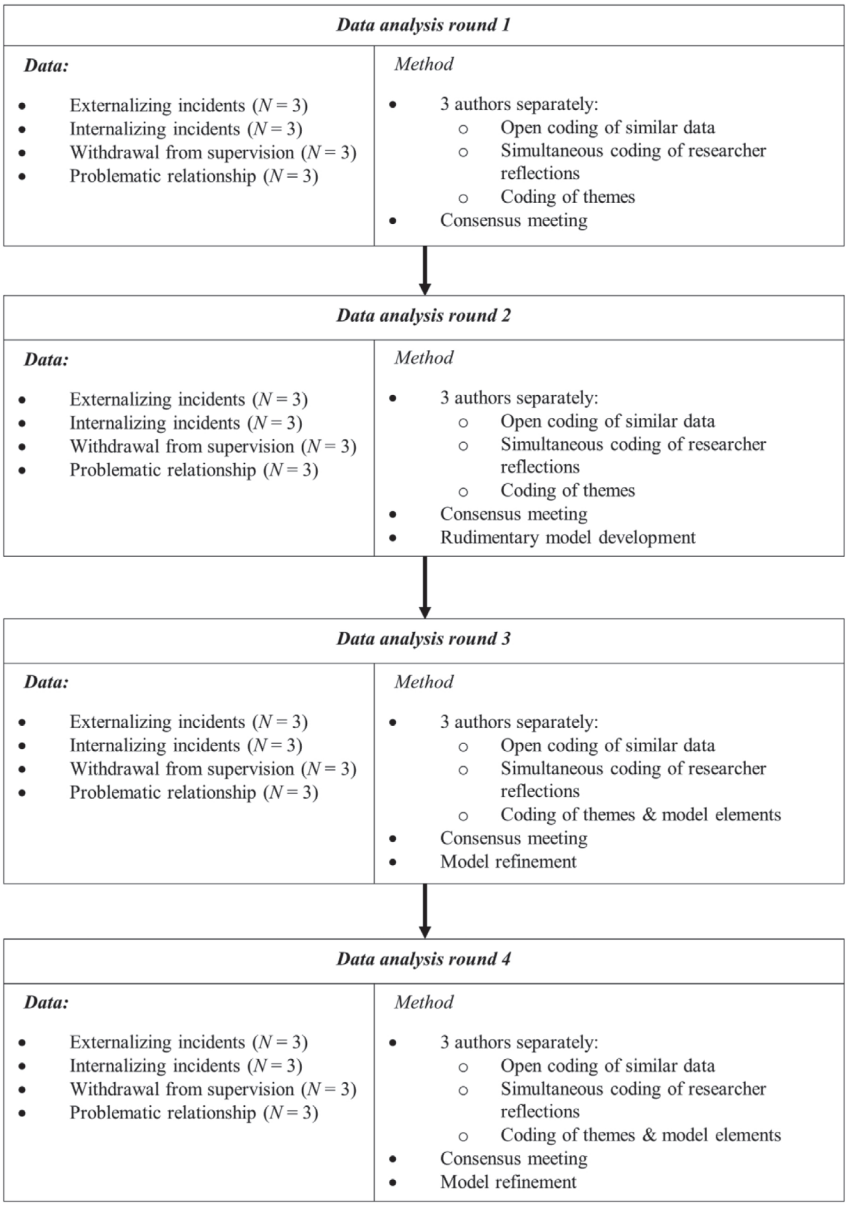
In the next phase a qualitative analysis of the selected incident reports was conducted. A qualitative approach was chosen to allow for flexibility, and data-driven analysis. The approach used here combined elements of Grounded Theory (Boeije, 2010; Scott, 2015) with Interpretative Phenomenological Analysis (IPA; Miller & Barrio Minton 2016). This approach has been used previously in forensic mental health (see Neimeijer et al., 2021; Verstegen et al., 2022). In Grounded Theory, data that appear similar are grouped and labeled conceptually, further categorized and organized by relationship until a theory emerges. IPA concerns different levels, one of which allows for the observations and reflections of the researcher to become part of the data coding and analysis process (Miller & Barrio Minton, 2016). Examples included thoughts from the coding researcher such as "given the diagnosis this action/decision from staff is weird", "that is what they should have paid attention to" or "it's going wrong because the signals are not connected" these were coded in a separate column and analyzed thematically in the same manner as the other data. The reflective encodings were also discussed in the consensus meetings. See Figure 2 for a schematic representation of the analysis.

Analysis was conducted in rounds, each round containing 3 reports of each of the four incident types which resulted in a total of 12 reports per round. Selection of reports per round was done randomly, having enough reports of each type to fill six rounds. Analysis was done by three of the authors, two with a forensic psychological background, one with a background in general mental healthcare. The author with a background in general mental healthcare provided critical supervision on the data analysis . The author

with a non-forensic background also provided critical insight whether certain themes or observed mechanisms were exclusive to the forensic context or were applicable to the context of mental health in general.

Figure 2

Schematic representation of data analysis per round



The analysis conducted is similar to the method employed by Verstegen et al. (2022) and Neimeijer et al. (2021). During each round, each author conducted analysis on their own using a similar method, consisting of two elements. The first element consisted of bottom-up open coding. Textual elements that appeared similar were grouped together, and then labelled to describe the underlying theme (Boeije, 2010). Simultaneously, each author also recorded in a separate column the thoughts, observations, and reflections that arose while reading the incident reports (Miller& Barrio Minton, 2016). See an example in Table 1. At the end of each round a consensus meeting was held between authors. During consensus meetings authors compared whether the same textual elements were grouped together, and whether the names of the themes were comparable. Reflections, thoughts and emotions of the coding researchers which were recorded as part of the IPA were also discussed and analyzed thematically. Rounds of analyses were conducted until all three authors concluded that saturation had been achieved, and further rounds would likely not yield new themes. Saturation was reached (in consensus) after four rounds.

During the first two rounds the data were coded bottom-up, resulting in several subthemes. Initially these subthemes were coded separately, without looking at overarching themes. At the end of the second round it appeared that all subthemes could be grouped into five themes which seemingly could be captured in an overarching model depicting forensic vigilance. The themes consisted of four core skills of observation, integration, communication and action. The fifth theme described the necessary capacity of professionals to be able to "connect the dots" (the four core skills) meaningfully in a manner specific to the forensic context (see "Results"). This model, and its elements (i.e., the five themes), was refined during the analyses in round three. In round four, the model was tested against exiting data and it was concluded that new data did not add any themes to the existing model (i.e., saturation)

Table 1
Example of coding scheme

Case	Description of incident & background information of patient[a]	Text excerpt[b]	Reflection (IPA coding)	Themes
Case 1	• Patients is severely autistic and has a psychotic disorder NAO. • Patient has committed severe violence against care providers before admittance to current hospital • Patient attacked two forensic mental health nurses (of the patients own ward) with a sharp object	There are differences in opinion between different professionals in the team about diagnoses and medication	Some opinions do not incorporate patient history and earlier work done in other institutions. This is a loss of relevant knowledge/lack of use of useful information	*History of patient* *Awareness of patient*
		Medication changed frequently (higher dose, lower dose, different drug) in short time period (2 months)	History shows that stable medication was key in maintaining stability, why was not more attention given to that fact?	
		The ward under investigation has seen a lot of changes in staff. During the week before the incident only new staff members are on shift.	Patient has severe autism and may be staff changes may have a destabilizing effect; this possibility was never considered (should have been).	*Awareness of patient diagnosis*
		Nurses look through hatch to see where the patient is in the room before opening the door, and tell him to go sit on the bed.	Observation of the surroundings to relate oneself in relation to the patient in physical space (this is "safe" behavior).	*Observation of surroundings*

Table 1 (continued)
Example of coding scheme

Case	Description of incident & background information of patient[a]	Text excerpt[b]	Reflection (IPA coding)	Themes
Case 2	• Patient is a man with an antisocial personality disorder, a high (>24) PCL-r score and a history of addiction (long in remission) and is of average intelligence • There is a (supposed) sexual relationship between patient and psychologist D.	Psychologist D. has several therapy sessions a week with patient. Conversations last longer than sessions with other patients.	This should have been noticed by colleagues of psychologist D., and should have ignited discussion about professional distance	*Observation of colleagues*
		Psychologist D. often takes on tasks that are not part of her normal role (but are part of other professional's roles) surrounding this patient (accompanies patient on visit to family, accompanies patient during run outside clinic walls, joins the patients on the ward during mealtime).		*Gut feeling* *Discussing uncertainty with colleagues*
		For interviews it became clear that colleagues had seen psychologist D. in a room with patient while the lights were off. This gave observing colleagues a "weird feeling", but they accepted the explanation from psychologist D.	Colleagues did have gut feelings about certain situations, but they did not discuss these with others in the team.	
		Psychologist D. has problems in her romantic relationship, which are known to colleagues.	The fact that this may make her vulnerable did not occur to any colleagues, nor was it discussed.	
		Psychologist D. describes patient differently in official reports (e.g. in a more positive light) than can be observed in the daily reports during that timeframe	Why is this not noticed by other professionals in the team?	

Table 1 (continued)
Example of coding scheme

Case	Description of incident & background information of patient[a]	Text excerpt[b]	Reflection (IPA coding)	Themes
Case 3	• Patient was diagnosed with antisocial personality disorder, has a high (>24) PCL-R score and is of average intelligence • Patient has escaped the forensic hospital by cutting through the fences with a soldering iron • Patient has a history of escapes from secure institutions	Security footage shows patient walking outside dressed in a winter coat and carrying a bag. When he returns to the main building half an hour later he is no longer wearing the coat and no longer carrying the bag. He returns outside again 20 minutes later, now carrying a pair of shows. This was not noticed at the time by the nurse sitting in the lounge next to the door outside.	Nurse should have noticed patient wearing coat in sunny weather and carrying a bag despite supposedly staying on hospital grounds. The nurse should have also noticed the patient returning without the coat and bag.	*Observing surroundings* *Subtle signs of possible escalation* *Discussing observations with colleagues and patient*
		Free time (which patients can spend off the ward) ended at 21h00. Patient was not discovered missing until "lights out" at 22h30.	Nurses should check whether all patients are on the ward at the time they should be. If not they should immediately take action to find out patients whereabouts.	
		Security staff walks the perimeter off the fence (= standard practice) at 22h30. He does not see the broken window, nor the hole in the fence.	The security staff should have seen the hole and sounded the alarm. Possibly the patient would have been re-arrested earlier.	
		The fence alarm sounds, the security staff, only checks the camera footage shortly and stops the alarm (it is common occurrence that squirrels climb the fence and set off the sensors).	Security staff should have looked at footage better/not assumed it was a squirrel. The "false alarms" caused by the squirrels should have been resolved when it became apparent this was a common occurrence.	
		Patient did not get an "heightened risk of escape" status, and gained terrains permission quickly (quicker than average)	Based on a history of previous escapes and absconsions (= known risk factor from literature) patient should have gotten "at risk for escape" status. The fact that patient for terrain permission quicker than average is a decision that, given the history, regrettable	*History of patient* *Awareness of patient*

[a] These were not included in the coding scheme for thematic analysis but are provided here to provide the reader background information.
[b] The ensure incidents mentioned here remain untraceable some details were changed and/or omitted
NOTE: this table is not exhaustive, both in terms of text excerpts per case that were noted down, as in terms of the themes resulting from 1 case. This table here serves as an insight into the analytical process conducted on the data and is not meant as an exhaustive overview of all possible incidents and/or themes that were found.

Phase 4: Expert consultation and model refinement

After the four core skills and the overarching model were developed in draft in the analysis phase, forensic mental health professionals were consulted in two online expert meetings to check whether the model matches with their daily clinical practice and whether the model was exhaustive and complete. The meetings were recorded in full (video and audio, with written permission of participants) and verbatim transcribed.

In total, 20 forensic psychiatric professionals participated in the expert consultation meetings, with a mean age of 43 years (*SD* = 13.76 years), and a mean of 14.5 years of experience in the field of forensic mental health (*SD* = 12.04). Of these, 20% (*n* = 4) worked as a group leader/nurse on a ward, 25% (*n* = 5) work as a ward manager, 10% (*n* = 2) as a treatment supervisor, and another 10% (*n* = 2) as probation officer. The remaining 35% (*n* = 7) worked in roles such as advisor, outpatient patient services, manager of a housing first program, and staff trainer. Of the participating professionals, 20% (*n* = 4) was employed in a high-secure forensic hospital, 30% (*n* = 6) in a medium secure forensic hospital, 25% (*n* = 5) in a forensic housing service, 20% (*n* = 4) in forensic outpatient services and 1 (5%) professional worked at probation services.

In the expert consultation meetings, professionals largely expressed recognition of, and agreement with the conceptual model. Experts made some suggestions in wording and the placement of focus areas within the model, which were included in the final model.

Results

Based on our analysis we have constructed a comprehensive model in which we distinguish five themes which appeared central to forensic vigilance. These five themes include four core competencies which all professionals need: namely observation, integration, communication and action. The fifth theme, connecting the dots, refers to the importance of being able to connect signs, observations, etc.

Observation

From the incident reports it became apparent that for professionals in forensic mental health settings observation is a core competence. By observation the professional can become aware of signals in the environment that a situation might escalate into a possible danger to the professional(s), the patient(s) or others. These can include observations of the physical environment, the social environment and the professionals' own internal experiences (thoughts, opinions, gut feelings etc.). Signals can be very explicit or clear such as a ladder next to a fence of the terrain which should not be there, or a patient showing raised clenched fists and an aggressive facial expression. However, signals can also be more subtle or ambiguous, such as one shard missing from an object that was broken into pieces or a patient withdrawing to their room.

Physical environment

One environment that the professional should observe is their physical surroundings. As became clear from the incident reports, aspects of the physical environment can contribute to incidents occurring. These include (but are not limited to) where the professional is positioned in the room in relation to the patient, whether a patient is where they should be at that specific time of the day, whether are windows/doors open, which objects are located in the space and if the objects are where they should be. Aspects of the physical surroundings that must be checked regularly or in a specific manner may be captured by standard protocols or regulations. However, a large part of observation of the physical surrounding is not specified by protocols but the professional needs to notice relevant elements anyway. Furthermore, whether something is relevant or not can dependent on the situation. For example a patient wearing their coat on the ward may not be relevant when this patient is on their way to the garden to smoke on a cold day but can be relevant when it is not cold and the patient is known to have a history of previous failures to return.

> Example 1: After a patient was discovered missing during the evening hours a search of the terrain ensued. Security guards walk the perimeter and check the fence. They do not notice anything out of the ordinary. The patient is not found that night. The next morning when security walks the perimeter again they discover a big hole, and a box cutter lying a little distance away in the grass. After checking the security camera footage it appears the hole was cut three hours before the first perimeter check of the security guards, at a time when patients still had access to the outside terrain.

In the first example the security guards fail to observe the hole in the fence on their first perimeter walk. If they had noticed it then, perhaps the escape would have been noticed earlier. An earlier observation could possibly have led to re-arrest of the escaped patient. Finally, the failure to notice the hole in the fence created more risk as other patients could have used the hole to escape as well.

> Example 2: [A patient was instructed to return to the ward immediately after an altercation when returning from leave.] The patient, upon returning to the ward, immediately started boiling several pots of water on the stove. The three ward nurses present withdraw a little bit and turned their back to the patient to discuss what to do next, when one of them feels a hard object against his head and suddenly he was soaked in hot water.

In this second example the context contributes to how the physical surrounding should have been observed. While "normally" a patient boiling water on the ward may not be considered remarkable, in this case the patient returned agitated after an altercation and chose to start boiling water as a first action once back on the ward. He also boils several pots of water at the same time. This context could give way to this observation becoming more relevant.

Social environment

Observation of the social environment, and specifically behaviors displayed by the patient, several patients, colleagues or others were found to be important in incidents developing. A patient, a colleague, or several people, may exhibit behaviors which could be indicative of a situation escalating towards an incident. The forensic mental health professional has to interpret behavioral cues that specific patients display when they become less stable. These signals may be included in an Early Recognition Plan (Fluttert et al., 2010), which are typically available for forensic psychiatric patients. Such a plan describes early signals specific to the patient being in distress that can be recognized by others (e.g., staff) and patients themselves early. By timely intervention distress could be resolved and thereby further escalation can be prevented. However, observation of the social environment may also include behaviors that are relevant in a specific context (for example if a patient shows different behavior around one specific staff member), behaviors that haven't been included in an Early Recognition Plan (yet) or behaviors from other professionals. Observable behaviors could furthermore include behaviors which are not typical for a patient, behaviors that are reason for alertness given a specific diagnosis, or behaviors of colleagues that warrants close attention (for example an especially close bond with one specific patient or staff member). It became clear from the incident reports that in order to be able to observe the social environment properly there are several types of knowledge the professional needs to have. These include general professional knowledge (such as which behaviors are common in specific mental disorders), but also specific knowledge of each patient's cues of distress, current life circumstances and history (for example a history of violence against caregivers). Excerpts that highlight the importance of observation of these social cues include:

> Example 3: [After changes to medications from patient B, suffering from schizophrenia] Patient B has gone to the gym for the second time today, he mainly spent his time kickboxing with a sandbag and running on the treadmill [daily report notes].

In this example seemingly innocent behavior (e.g., working out) is observed by the professional and noted down. The professional needs to have general professional knowledge of the disorder patient B has and knowledge of the fact that medication can cause bodily unrest. The professional also has knowledge of early recognition signals from this patient (e.g., working out in increasing frequency), and the current state of affairs in the patient's life (e.g., that there had recently been a change in medication). Combining this information allowed the professional to observe relevant aspects in the social environment, in this case the behavior of a patient.

> Example 4: [In hindsight from staff]: Patient Y and professional X spent much time together. At one instance patient Y was untraceable. Hours later he showed up together with professional X, who claimed she had found him "wandering about" [hindsight interviews with colleagues of professional X after it became known patient Y and professional X were involved in a romantic relationship].

In this fourth example, the behaviors observed (e.g., spending time together, being untraceable for a period of time) were not part of the Early Recognition Plan, nor were these behaviors specifically part of the diagnostic picture Patient Y presents with. In this case the observation of the social environment, and specifically differentiating between remarkable and unremarkable observations, is dependent on behaviors of others and the social context in which the behavior takes place. Even though the professionals did not know about the relationship at the time, they did make the observations and remembered them (which is unlikely in the case of mundane occurrences such as whether one said "hi" to colleagues in the morning, or locked the door; Mace et al., 2019).

Internal experiences of the professional

Finally, the professional has all kinds of internal experiences such as thoughts or opinions, which can also be observed by the professional experiencing them, and possibly have a signaling function. The professional may have gut feelings, which were often mentioned in the incident reports and likely form an important aspect of forensic vigilance. These too, although difficult to define, can be seen as a signal of possible danger. Sometimes the professional may experience gut feelings in response to an objective, observable aspect in the physical or social environment which could have caused an "uneasy" feeling. However in some cases no readily identifiable cause has been present.

> Example 5: When we brought him to the segregation ward, I had a weird feeling and deliberately walked behind the patient [excerpt from interview with ward nurse after patient involved was physically aggressive towards staff later that evening].

Here, the professional experiences a strong "gut feeling" when he and four other colleagues were guiding a patient to the segregation ward. The professional involved observed this and acted on the basis of this observation. During the walk to the segregation ward nothing notable happened.

> Example 6: Right before opening the door she [ward nurse] has a "hunch" and she instructs the patient to go sit on the bed before they open the door. As she and a colleague enter the room the patient attacks them with a shard of a porcelain shelf from the bathroom.

The ward nurse in this example experienced a strong gut feeling when she was looking at and speaking with the patient through the door hatch. The ward nurse in question observed this feeling, and, despite not knowing where it came from, took action on the basis thereof (instructed patient to sit on the bed before they opened the door). Though it may very well happen that professionals experience gut feelings and nothing dangerous or out of the ordinary happens in that situation, in this case the patient did become aggressive and was able to wound one of the ward nurses (despite sitting on the bed when they entered the room).

Integration and interpretation

Next to observation, integration seems a critical skill for professionals, as they need to integrate all observations, interpret perceived signals and consider whether there is a (potentially) dangerous situation. When meaningfully linked together, signals can allow the professional to form conclusions about the current situation: "this patient is showing signs of active psychotic disruption" or "I may see a non-professional contact here". Similar to the components needed to properly observe the social and physical environment, it became clear from the incident reports that in order to properly interpret the signals, professionals need several types of knowledge. First, they need general professional forensic knowledge (of crime dynamics, psychopathology), knowledge of the history, diagnosis and early signals of specific patients, but also knowledge of what is going on in the patients' life at that time (from file/communication with colleagues). This integrated information must be weighed and considered in the forensic context (e.g., of forced treatment/mandatory surveillance; in this particular context this signal is indicative of a potential risk).

> Example 7: Given the pounding on the wall all through last night, and the fact that patient F. made "strange" remarks to several other patients in the last days, the team suspects patient F. may have stopped taking her medication and may be starting to become psychotic.

In this example the observations, specifically of the social environment (pounding on wall and making "strange" remarks) are added together and combined with general professional knowledge of psychotic disorders, and the knowledge of the individual history of the patient (e.g., the fact that she at times stops taking medication). The integration allows the team to conclude that patient F. may have become actively psychotic.

> Example 8: The team did observe signals, such as increasingly frequent expression of threat; increasing withdrawal from the therapeutic alliance with the team; increasing periods of drug use; failure to adhere to requirements; looking up information on a foreign city, including printing a map and the team addressed these instances with the patient. However, they failed to integrate them meaningfully and failed to notice the overarching picture: that patient H. was increasingly unstable and possibly at risk of causing an incident [considerations from IPA] [patient failed to return from a planned leave and it was suspected that he had left the country].

This example clearly distinguishes the difference between observation and integration and is exemplary of many instances encountered in the incident reports. Signals are observed and noted from both the social and the physical environment, for example that patient H. makes threats such as "I will run away and you will never find me" or "I will give you something that the newspapers can write about". It was noted that this patient was withdrawing from care, and that he was looking up information about a foreign city, which was also discussed with the patient. However, these signs were not integrated,

and no interpretation was given to the collection of signals that could be observed. Each observed signal was noted on its own, and when action was taken this was in consequence of one or two observed signals. The overarching conclusion, that patient H. was possibly at risk for absconsions, was not reached by the professionals in this example.

Communication

Through the analysis of the incident reports it became clear that communication is another core skill needed for forensic vigilance. The professional should communicate about observations and their consideration and integration with the team and (where possible) with the patient. Communication appears to increase the collective ability as a team to observe and to interpret signals meaningfully, and therefore also serves as a source of information in other steps (observation and integration). The professional must transfer the observed signals (including the internal experiences, e.g. thoughts and gut feelings of the professional) and his/her interpretation thereof to other professionals involved. This means: communicating within the team/during shift transfers, but also recording them in the long term, for example in daily reports and treatment plans surrounding the involved patient(s). However, short and largely informal interactions are also important. The professional must have enough time to actually send and receive communication about a patient. Finally, the professional should communicate about their observations and their interpretation with the patient whenever possible and appropriate.

> Example 9: The professional notices that the patient has a strange look in his eyes when she is on her way to leave for the evening, and thinks he may not be doing well. She intends to check with this patient immediately after the start of her shift in the morning, and to discuss it with the team if he still appears strange [excerpt from interview with professional in question; later that evening the patient becomes aggressive towards a fellow patient.]

Here, the professional involved had observed a signal (e.g., patient had a "strange" look in his eyes), for which she needed knowledge of the individual patient's Early Recognition Signals. She also interpreted this specific signal as important (e.g., the patient may not be doing so well) and intended to check in with the patient in the morning. However, she did not communicate her observation and/or the interpretation with anyone that evening as she was on her way out. An aggressive incident involving this patient occurred later that evening. Though it can definitely not be said that the incident could have been prevented had this professional communicated about her observation earlier, the professionals on shift later that evening lacked information that was available.

> Example 10: Colleague A. sees professional F. and patient G. together in the patient's room several times during the day, at one point it appears as though patient G. is touching F's face. She shares her observations and her thoughts ("I thought it was strange") with a direct colleague a day later, and together they talk to their manager.

In this example, the observations of the social environment and the professionals' own experiences are communicated with a colleague, and both of them communicate them to their manager. Though (apparently) no interpretation of said observations has been made, information about these signals is now known to (at least) three different people and can be communicated further. This allows for further collective observation as the "valence" of certain observations (e.g., interactions between professional F. and patient G.) has possibly changed.

Action

The fourth theme which was found in relation to forensic vigilance was action to prevent further escalation or the occurrence of incidents (although it is important to note that severe incidents can never fully be prevented). Based on the observed and interpreted signals, the professional (sometimes alone, sometimes jointly with the team after communication) has to make a conscious decision if it is necessary to take action and how to return towards stability as much as possible. Appropriate actions correspond to the "level" of the potential danger. Not taking action does not necessary mean that this step is missing, but this must be a conscious decision. Entering into a conversation or making additional agreements can also be considered actions. These additional agreements, or the course of the conversation, are then necessary input for further observation and integration to continue monitoring the situation and must also be included in the communication.

Taking action may involve assertiveness from professionals, and may include doing something or taking actions that the patient does not agree with, or at least not at that time.

> Example 11: After P. uttered threats again this morning, this time towards his mentor, I deliberated with E. [colleague] and decided to suspend leave permissions at least in the next two days, and to instigate a rest program [with less moments within the group environment of the ward]. P. did not like this at all and started shouting when we gave him the message. Let's evaluate the situation later today [excerpt from a daily report from weeks before this patient caused a violent incident in the central area of the clinic].

In this example the professionals had observed signals which they interpreted as indicative of possible escalation and communicated about this. Next, they decided to suspend leave permissions for a short period of time as they judge the risk of something happening during a leave movement too high.

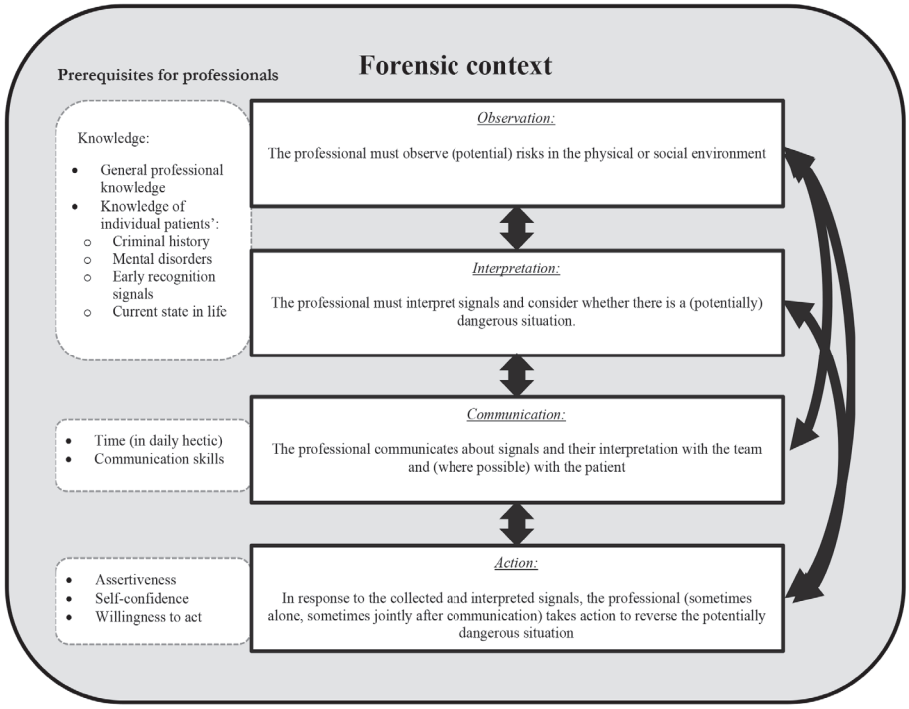
> Example 12: The manager receives several signals that professional K. seemed to have a special relationship with patient D., and she notes them all down. However, she leaves for a two-week holiday in two days and does not take any action before returning.

In this example the signals are observed, interpreted (to a certain degree) and communicated (to a certain degree). However, the lack of action allowed this situation to continue for another couple of weeks, and thereby also allowed the lack of safety (for the patient, for the colleagues of the professional involved) to continue.

"Connecting the dots"

Forensic vigilance is more than observing, interpreting, communicating and taking action. During the analysis it became clear that the forensic mental health professional needs to "connect the dots" at all times. The "dots" are the four skills presented above, which need a range of competencies (e.g., observation and communication skills), attitude (e.g., attenuation towards things that are "off") and knowledge (e.g., general professional knowledge and knowledge of individual patients history, early recognition signals etc.). Connecting these "dots" seems a highly cyclical process in which these four themes (observation, integration, communication and action) are steps. However, each of the four skills are input sources for other ones, and the process may be completed erratically (observation, integration, observation of new signals, integration, communication, integration, communication, action etc.). It seems that forensic vigilance can be seen as a house-of-cards construction, as each of these four themes is integral to forensic vigilance. Without one of the four, professionals are not able to properly conduct the other three. In the excerpts presented above for example, communication about observed signals and their interpretation also serves to adjust future observations. Though this process contains elements needed in all types of healthcare settings (for example clinical decision making) it is unique to the forensic context in terms of how the "dots" are connected and weighed and is done in order to achieve a unique goal (e.g., reducing recidivism risk). Professionals may have to do this quickly, while making "on the spot" decisions, but this process is also visible when professionals are expected to notice changes over time. This process is aimed at creating and maintaining a safe environment for the professionals themselves, colleagues, patients and others in which the therapeutic needs of the patient are met as optimal as possible. Within this process there is a complex interplay of personal and contextual factors, and often the professional can only fully go through this process in interaction with their team since they rely on observations made by others and how these are interpreted and communicated. See Figure 3 for a schematic representation of the cyclical process and the main themes.

Figure 3
Schematic representation of forensic vigilance with the four core skills of observation, interpretation, communication and action and the prerequisites for those in dashed boxes on the left



From the analyses it became apparent that there is a lack of forensic vigilance if professionals do not properly observe signals available, if they fail to meaningfully connect and interpret signals, if they fail to communicate about the observations and interpretation thereof, if they fail to take action or a combination of the above. Mostly there was a lack of forensic vigilance if professionals failed to "connect the dots".

Finally, the four skills and the overarching model resulting from the thematic analysis was presented to forensic mental health professionals, consulted in two online meetings. These 20 forensic psychiatric professionals largely expressed recognition of, and agreement with the four skills needed by professionals to conduct each of the four and the overarching model. The professionals also expressed recognition of the multidirectionality and complexity of the interaction between the model elements, and the "house-of-cards" construction. The professionals participating in the expert meetings made some suggestions in wording and the placement of areas of attention within the model, which were included in the final model.

Different types of incidents

During the analysis it became apparent that this general process with the four central skills of observation, integration, communication and action is applicable to all four types of incidents, and require the same prerequisites (e.g., professional forensic knowledge, knowledge of the individual patient's early recognition signals etc.). Only very few areas of concern specific to distinct types of incidents became apparent from the thematic analysis. In internalizing incidents or withdrawal from supervision, the patient often experiences hopelessness and/or loss of perspective. In non-professional contact between a patient and a staff member the employee involved often faced problems in the private situation, such as problems in the romantic relationship, experienced adverse life events such as an experienced loss, or financial problems.

Discussion

The current study investigated the role of forensic vigilance in the occurrence of severe incidents in Dutch forensic psychiatric hospitals, and describes how. In the incident reports analyzed, forensic vigilance does seem to show a relationship to incidents in forensic psychiatric hospitals. Forensic vigilance appears to be a highly cyclical process in which four skills, namely observation, integration, communication and action form the elements. This first step is observation: the forensic professional continuously observes his or her physical and social surroundings and own internal experiences. The professional must alone, or in interaction with the team who could have observed other signals, connect all observations meaningfully and interpret them into a conclusion about the current state (e.g., "the situation is safe" or "this patient is showing signs of aggression"). In order to do this the professional, as with observation, needs general professional knowledge and knowledge about individual patients. Next, the professional communicates about their observations and interpretations with the team, and where possible with the patient. Finally the professional, where possible in collaboration with the team, determines the appropriate course of action. The four core skills observation, integration, communication and action (see Figure 3) are input sources for the other ones, and the process may be completed erratically (observation, integration, observation of new signals, integration, communication, integration, communication, action etc.). However, each of these four is integral to forensic vigilance (e.g., house-of-cards construction), as without one the professional cannot properly conduct the other, and an incident may occur. However, most importantly, professionals need to be able to "connect the dots". This refers to the importance of being able to connect signals of impeding escalation. Professionals need to be able to connect information both within the four core skills (e.g., connecting different observations) and between these (connection observations meaningfully, communicating about the collective interpretation and taking action accordingly). Though the four skills in the model are not unique to the forensic context, the type of knowledge needed for

each step, the amount of assertiveness needed by professionals and mostly the forensic context are different to other mental healthcare settings. The forensic context requires the consideration of risk in a broader sense since forensic psychiatric professionals not only need to consider possible harm to themselves, the patient or other patients but also society as a whole. The primary goal of forensic mental health treatment, namely the reduction of recidivism risk, and the magnitude of possible risk, should always be considered by the professional when "connecting the dots". The complexity of the forensic field, in which professionals have a dual role, changes how these "dots" should be connected.

The findings presented here are in accordance with other literature. For example the first study on forensic vigilance by Clercx et al. (2021) show that the 15 statements which were most endorsed by professionals also included aspects of observation, communication and action, and also found that the attributes which were presented here as important (e.g., professional forensic knowledge, knowledge of individual patient's early signals of disruption, being able to recognize and communicate about gut feelings) to be prototypical aspects of forensic vigilance according to forensic professionals. Aspects of this cyclical mechanism have also been highlighted previously by other scholars. For example, Fluttert et al. (2010) highlight the importance of observing early warning signs of aggression, and staff interpreting them as such. Other studies have also pointed out that the professional intuition, own thoughts and opinions, and gut feelings remain an important source upon which forensic professionals assess a situation (Bowring-Lossock, 2006; O'Dowd et al., 2022; Hammarström et al., 2019). Bowring-Lossock (2006) also highlights the importance of different types of knowledge in forensic nurses specifically, for example knowledge of mental health issues and distorted thinking patterns. The importance of good communication skills among those working in forensic mental health has also been highlighted (Henshall et al., 2020), as well as the fact that restricting the patient may be necessary but may include going against the patient's own wishes, which can harm the therapeutic relationship (O'Dowd et al., 2022). Finally, many scholars have written about certain actions that professionals can take, such as limit-setting and de-escalating actions (Roberton et al., 2012). In conclusion, the model presented here highlights the role of forensic vigilance, and describes which skills forensic mental health professionals need in order to maintain safety in forensic psychiatric setting.

Findings presented here may be used to educate and train forensic mental health professionals. The model and the four core skills allow for clear sub areas which training should be focused on, while examples from this study can be used in training programs or to support the theoretical model. Possibly, the model presented here may also be useful in daily multidisciplinary meetings to structure staff interactions. Managers could use the model to monitor how the team works together on the different themes (e.g., observation, integration, communication and action) and to map the teams strengths and weaknesses.

However it must be noted that complete prevention of severe incidents is likely an unattainable utopia, as others have noted as well (Bowring-Lossock, 2006).

Strengths, limitations and recommendations for future studies

The current study utilized incident reports written because of investigations into severe incidents in forensic psychiatric hospitals. A major limitation is that we used the finalized incident reports rather than collecting our own data concerning the period around the incident and the patients involved (e.g., read the daily reports ourselves, conduct our own interviews etc.). Therefore, even though we removed findings, conclusions and recommendations for the future posed by the authors of the reports, we were dependent on which information they deemed important/relevant enough to include in the finalized incident report. Using own data-collection from files as a method would be infinitely be more labor-intensive and longer in duration. However, it might be recommended to conduct such a study to corroborate the findings presented here. Furthermore, due to the use of incident reports we only analyzed situations in which something went wrong (i.e.,. an incident occurred). Hypothetically forensic vigilance is important in preventing situations from turning into an incident. Ideally one would then also included situations in which an incident was prevented. However practical concerns play a role in including situations where no incident occurred. Usually, no standardized investigation method is applied to such situation. Future studies could include these type of situations by for example having professionals recall situations in which they felt an incident was (barely) prevented.

A strength of our study was that many of the hospitals approached (8 out of the 12 forensic hospitals in the Netherlands) were willing to participate, which resulted in a high number of collected reports. This also allowed us to not include reports which were deemed of insufficient quality, and thus meant we only retained incident reports in the analysis which contained ample information about the diagnostic and biographic background of participants and the chronological timeline. Another strength of our study is the multimethod development of our model by gathering input from forensic mental health professionals before finalizing the model.

Future studies could include research into the added value of this model to clinical practice. Do decreases in any of the four core skills, or elements needed for these (e.g., knowledge of patient history) also lead to a lower sense of safety, for example if there are many new or inexperienced staff members? It would furthermore be interesting to study if awareness of and the use of this model for example in team functioning evaluations increases the sense of safety. And finally, if a training program is developed, it should be studied whether this increases the sense of safety, and ultimately leads to less incidents as would be the aim.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CHAPTER 6

Patient's Perspectives on Qualities Needed by Forensic Professionals to Maintain a Secure Environment

This chapter is submitted for publication:
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Abstract

Forensic vigilance is a specialistic competency of forensic mental health professionals. It encompasses observation of the physical and social surroundings, and the professional's own "gut feelings", while connecting these with general professional forensic psychological knowledge and knowledge of individual patients. The professional has to interpret observations, communicate about these observations and its interpretation, and undertake action if needed.

The construct of forensic vigilance has been defined on the basis of research among professionals. However, patient's lived experiences and views are indispensable when describing a construct and are relevant to its clinical application.

In the current study we conducted focus group meetings with 26 forensic psychiatric patients to discuss which qualities, skills, traits, characteristics and communication style they regard as important for forensic metal health professionals in order to maintain a safe environment for patients and staff These qualities may be important in forensic vigilance

Thematic analysis revealed 14 subthemes divided over four overarching domains: personal attributes from professionals, communication, signaling and action, and interpersonal relationships. The current research showed similarities to earlier studies on forensic vigilance and yielded information on practical aspects. In this paper, we discuss these similarities and we present a number of recommendations for clinical practice.

Forensic mental health settings are a unique and complex work environment that requires specialistic skills, attitude, approach and mindset from professionals compared to professionals employed in non-forensic civil mental health settings. This specialized collection of skills, attitudes, and competencies has been named "forensic vigilance" (in Dutch: *forensische scherpte*; see Clercx et al., 2021). While general clinical decision-making skills (Lauri et al., 1999; Muir-Cochrane et al., 2011), and other general professional skills, such as observation, are included in forensic vigilance, forensic vigilance transcends these and includes other aspects (e.g., knowledge of criminal behavior) as well. In general, forensic vigilance aids to prevent potentially dangerous or unlawful situations in the forensic setting. Clercx et al. (2021, p. 14) define forensic vigilance as:

> *"Forensic vigilance is anticipating on possible escalation of a situation before it happens by actively observing your surroundings and colleagues, and knowing when an observation requires action. Forensic vigilance requires awareness of the patient(s), their mental disorder, criminal history, and awareness of the context of a forensic setting. It is being able to recognize even subtle signs of possible escalation, the capacity to communicate with colleagues about observations, doubt, uncertainty or gut feelings, and the willingness to act when necessary"*

Forensic vigilance can be viewed as a cyclical and multidirectional process with four central elements of observation, integration, communication and action (Clercx, Peters-Scheffer et al., submitted). Practically speaking, the forensic mental health professional, alone or together with their team should continuously observe the physical and social surroundings, and their inner experiences such as "gut feelings". These observations are then connected meaningfully with professional forensic knowledge and knowledge about diagnoses, (criminal) history, and current mental state of individual patients. This is done in order interpret the observations, and discern whether these signal a potentially dangerous or unlawful situation. The forensic context adds weight to certain signals or changes the interpretation of those signals. Communication is furthermore an important element, as the professional has to communicate the observations and the interpretation that has followed with their colleagues and if possible, the patient. Finally, an appropriate course of action needs to be determined. Each of the four elements is input for other ones. For example communication with the team and sharing observations may change how new observations are interpreted. Or communication can may change which signals the professional is likely to regard as relevant or important (Clercx, Peters-Scheffer et al., submitted). Forensic vigilance is regarded as an important by forensic mental healthcare professionals (Clercx et al., 2021), and is regarded as important in maintaining safety (Clercx et al., 2021; Clercx, Peters-Scheffer et al., submitted).

Despite increasing knowledge about forensic vigilance, little is known about what patients think are important traits, skills, attitudes etc. for forensic mental healthcare professionals in relation to maintaining safety. Patients may have their own ideas about

which qualities forensic mental health professionals need in order to maintain a safe environment within the forensic mental health. Patients' experiences during admission to (psychiatric) hospitals, and with staff and their professionalism have previously been used to evaluate these services (see for example Maassen et al., 2017; Newman et al., 2015; Popa et al., 2017). Patient's views and experiences are relevant to the clinical application of the construct of forensic vigilance. Patients may be able to elaborate existing knowledge, and provide concrete examples, for example how professionals (in their opinion) should act in certain situations, or which observations should signal potential danger to professionals.

The current study

In the current qualitative study we explored patient views on which qualities, skills, traits, and characteristics patients regard as important for forensic metal health professionals in order to maintain a safe environment for patients and staff. We also explored whether patients think different staff members are more or less forensically vigilant and if patients change their behavior in response. It may, for example, be the case that patients feel that they have a better chance in dealing or using substances undetected while a particular professional is present, but another is not. Learning what, if any, observations patients make about staff, how patients feel staff should observe their surroundings, interpret these signals, communicate and act is vital in describing the clinical implications of forensic vigilance We expect patients' views of forensic vigilance to extend knowledge about the construct and provide valuable insights into the practical application of forensic vigilance.

Method

The study was approved by the ethics committee of the faculty of social sciences of the Radboud University in Nijmegen, the Netherlands, with reference number ECSW-2020-137.

Procedure

We conducted focus group meetings with forensic psychiatric patients to discuss which qualities, skills, traits, characteristics, communication style etc. patients regard as important for forensic metal health professionals in order to maintain a safe environment for patients and staff. Two high-secure forensic psychiatric hospitals in the Netherlands were included in the study. Two other high-secure forensic hospitals agreed to participate, but in one hospital none of the patients approached were willing to participate and in another hospital practical concerns (shortages in staff, prolonged absence of contact person for the study) hindered patient recruitment. The first author provided treatment supervisors with information about the study, the research method, and eligibility criteria for prospective participants. In principle no patients were excluded from the study; however, due to the focus group interviewing method it was considered important that patients were emotionally and cognitively capable (enough) to function in a group interview setting.

Next, participants were first approached by a member of staff of their own ward to provide basic information about the study. If they indicated they were interested in participation they received an information letter about the study, containing information about the goal, research method, duration of the interview, the fact that the conversation would be recorded (audio only; see below), the fact that the verbatim transcription would be anonymous, and which file information would be collected for demographic information. The information letter also specified who was the principal investigator and who would be conducting the group interview (first author), how data would be stored and who would have access to the data (all authors and a research assistant). The letter also stated that the content of the group interview meetings would be considered confidential with respect to what individual patients had said, that information disclosed in the meeting would only be discussed and published anonymously. Patients were given the option to use a pseudonym when the audio recording was ongoing (no patients chose to use this option). There was one exception to this, which was also described in the information letter: if a patient would disclose information that could cause harm to persons or goods this information would be shared non-anonymously with the treatment team (this did not occur during the study). Finally, the information letter detailed the reward for participation: a €10 gift card for an online department store in the Netherlands. The information letter was written in accessible language (as much as possible) to take into account different cognitive abilities and reading and language levels. If, after reading the information letter, the patient indicated an interest to the treatment team, the team would contact the principal investigator who subsequently scheduled them.

Each focus group meeting started with a short verbal explanation of the study, and patients were provided with a written informed consent detailing the same information as the information letter provided beforehand: information about the goals of the study, study duration, demographic information that would be collected from file, the principal investigator, details about the audio recording and transcription process, data storage, terms of confidentiality and the reward The informed consent was also written in as simple and accessible language as possible, the researcher orally explained the conditions mentioned in the informed consent and answered any questions. Patients were given time to read the informed consent, and were asked to date and sign the informed consent. Patients wishing to be excluded at this or any time during the meeting were free to do so. One participant decided to leave before the start of audio recording, he was not included in the sample size of 26. Another participant wished to return to his ward about halfway through the focus group meeting, he was included in the sample size of 26. After all remaining patients signed the informed the consent, a short informal introduction round was conducted for the patients and the researcher to get acquainted. The audio recorder remained turned off during this part of the meeting.

Next, the actual research part of the meeting started. The focus group interview was conducted with the aid of a pre-set topic guide (Di Lorito et al., 2019; Doria et al., 2018), which was prepared by the first author on the basis of earlier studies into forensic

vigilance, more specifically 15 aspects that were found to be central in forensic vigilance (Clercx et al., 2021) and earlier studies showing relationships between forensic vigilance and work experience, personality traits and communication styles (Clercx, Keulen-de Vos et al., submitted). The topic list was adjusted after consultation with the other authors and was finalized in consensus before the recruitment of patients started. Topics included "Which characteristics (personality traits) of personnel are important for safety in the hospital or on the ward?", "And what behavior?". Another question on the topic guide was "If a situation escalates (e.g. into aggression), do you feel that staff should usually be able to see this happening? How?" The researcher could ask follow-up questions as needed during the interview, such as "Why do you think this [named skill] is important?" or "What do you think a staff member should ideally do if there are signals such as the one you describe?". The term 'forensic vigilance' was not mentioned in the focus group meetings, as this term is not commonly known among patients, only among professionals. Especially patients with cognitive impairment could possibly be confused by this since the Dutch term, "*forensische scherpte*", includes a word that can have two meanings depending on the context We therefore focused on "Characteristics, traits, skills, and attributes from staff that are related to safety". Focus groups were conducted in Dutch, the topic guide was translated verbatim. Please see Figure 1 for the complete topic guide.

All focus group meetings were audio recorded and verbatim transcribed (by the first author) shortly after the meetings, after which the original audio files were deleted. Verbatim transcripts were anonymous; names of participating patients were replaced with a number, and names of fellow patients or staff members participating patents mentioned were replaced with an initial.

Patients participated in the focus group meetings in small groups (2-4 participants per group). One patient was interviewed alone because both other patients scheduled for that meeting did not attend. In total seven focus group meetings and one individual interview were conducted.

Participants

In total, 26 forensic psychiatric patients from two high-secure forensic hospitals (of which 4 from medium-secure wards) were included in the study, all male[5]. Patients from 14 wards participated. The mean age of participants was 44 years (*SD* 10.39 years), almost all with a Dutch nationality (which included those originally from constituent countries in the Kingdom of the Netherlands in the Dutch Caribbean). Slightly more than a quarter (27%) of the participating patients had committed a (attempted) murder or manslaughter. The index crimes of the current sample also included high numbers of assault or other violent crimes (30.8% each). Most prevalent were DSM-5 Cluster B personality disorders (84.6%), substance use disorders (73.1% showed at least problematic substance use,

5 In the Netherlands only one high-secure forensic hospital includes female patients, which is about 6% of the total number of patients; de Vogel, & Nicholls, 2016). This hospital was not included in our study.

if not addiction), intellectual disability or borderline intellectual functioning (34.6%) and psychotic disorders (30.8%). Overall risk for recidivism measured by the Historical-Clinical-Risk Management-20, Version 3 (HCR-20 V3; Douglas & Shaffer, 2020) was moderate-high or high for all participants.. The current furlough permissions differed throughout the sample. Please see Table 1 for more information about the demographic information of the participants.

Figure 1

Topic guide used during the focus group meetings

Focus group topic guide:*

Questions about staff traits/characteristics

- What makes that some staff have a keen eye?
- Do those who have a keen eye pay much attention to the rules? Or not?
- Which characteristics (personality traits) of staff are important for safety in the hospital or on the ward? And what behavior?
- If there is something you want to do that is not (entirely) allowed, does it make a difference which staff members are on duty, or not? If yes, which characteristics do staff members have that make you more or less likely to try to do something? How do you think other patients perceive this? With whom (which characteristics) would they rather do things that are not allowed?

Questions about observation/signaling skills in staff, actions taken by staff

- If something is going on (e.g. a fellow patient is doing badly, or there is tension on the ward), do you as patients see it clearly in certain signals or occurrences? Or do you have more of a "feeling"? Can you give examples of this? And do you think it works the same for staff, or differently?
- If a situation escalates (e.g. aggression), do you feel that staff could have foreseen the escalation of the situation earlier? How?
- If things happen that are not allowed, do the staff often notice (e.g. weapon/drug/ storage medium possession or trade? Approximately what percent of the time?
- Are there subtle signals that staff often notice as a sign of something going on that is not allowed? Or that the staff often misses?
- Do staff always see the possible hiding places for contraband? What % of the time would staff discover hidden hiding places?
- Is staff always aware of the relations between patients (e.g. if there is tension, if there are power relationships, if there is irritation? And how can they best influence this? And what can staff better not do?
- Is the statement "patients know which of the staff is sharp and who is not" true? How could staff in general become sharper?

Questions about staff communication style/actions

- How can staff best be assertive when they notice that something is happening that is not allowed/safe/appropriate?
- Is staff sufficiently aware of their own behavior and reactions to patients? Are there differences here?
- Sometimes staff have to go against the wishes of patients. How can they best do this?
- Do staff often act according to signals that you think can be seen? Or not? How hcan they best do this?

Questions about the role of staff towards the patient

- How do you see the role of staff in relation to patients? What are their duties?
- Are there differences between different staff members (e.g. forensic nurses/group leaders (ward staff), labor supervisors, therapists, treatment supervisors etc.) in how big the influence is on daily life? Which employees have more influence?

Other questions

- Do you have other comments about what makes staff "good staff"? And staff that is aware? Any remarks about how staff can increase safety in the hospital/on the ward?

* Translated verbatim (as closely as possible) from Dutch

Analysis

We qualitatively analyzed the focus group transcripts. Qualitative analysis allows flexibility and data-driven analysis. We used Grounded Theory (Boeije, 2010; Scott, 2015), which has been used in forensic mental health context (see for example Neimeijer et al., 2021; Verstegen et al., 2022). First, one familiarizes themselves with the data by reading them thoroughly several times. Next, data elements (in this case text excerpts) that appear similar are clustered into a theme (or subtheme) and given a label which describes the content. We dissected a number of subthemes within four overarching domains.

Table 1
Demographic details of patients

Variable			**Mean (SD)**
Age in years			44.38 (10.39)
DSM-5 Global Assessment of Functioning (GAF)			43.23 (6.47)
			Frequency (%)
Index crime	(Attempted) murder or manslaughter		7 (26.9%)
	Sex crime	Adult victim	3 (11.5%)
		Underaged victim	4 (15.4%)
		Hands-off crime	3 (11.5%)
	(Attempted and/or aggravated) assault		8 (30.8%)
	(Attempted) threat		6 (23.1%)
	Oher violent crime		8 (30.8%)
	Fire setting		1 (3.8%)
	Other crime		14 (53.8%)
Diagnosis	Personality disorder	Cluster A (Paranoid, Schizoid, Schizotypal or NOS with Cluster A traits)	1 (3.8%)
		Cluster B (Borderline, Narcissistic, Histrionic, Antisocial or NOS with Cluster B traits)	22 (84.6%)
		Cluster C (Avoidant, Dependent, and Obsessive-Compulsive or NOS with Cluster C traits)	1 (3.8%)
	Substance use disorder	Classified addiction	16 (61.5%)
		Problematic substance use	19 (73.1%)
	Intellectual disability/borderline intellectual functioning		9 (34.6%)
	ADHD/ADD		3 (11.5%)
	Autism spectrum disorder		2 (7.7%)

	PTSD/trauma	4 (15.4%)
	Paraphilia	2 (7.7%)
	Psychotic disorder	8 (30.8%)
	Anxiety disorder	1 (3.8%)
	Mood disorder	3 (11.5%)
	Other mental disorder	3 (11.5%)
HCR-20 V3 total score if judicial title would end	Moderate or lower	0 (0%)
	Moderate-high	9 (34.6%)
	High	17 (65.4%)
Furlough permission	None	10 (38.5%)
	Supervised	8 (30.8%)
	Unsupervised	6 (23.1%)
	No furlough permissions needed on ward	2 (7.7%)
Ethnicity/nationality	Dutch	23 (88.5%)
	South-American	2 (7.7%)
	Asian	1 (3.8%)

Note. Patients could have more than one index crime and be diagnosed with more than one mental disorder.

The data analysis was conducted separately by the first and second author, both also clustered into (sub)themes independently. Next, the (sub) themes were discussed in a consensus meeting. During the consensus meeting samples of the focus group transcripts were also compared to investigate whether text elements were clustered into the same or similar (sub)themes by the two authors. This was done on a sample basis because the entire transcript of all focus groups was too lengthy to do a text-by-text comparison of all the material. The consensus meeting revealed agreement about a large majority of the existing subthemes in the transcripts, and text-by-text comparison also showed agreement about which text elements belonged to which subtheme. Discussion of the content led to refinement of the subtheme labels, and the grouping into four overarching domains.

Results

We dissected 14 subthemes, which we subsequently arranged in four overarching domains.

Personal attributes of staff members

The first overarching domain is personal attributes of staff members. This domain captures reflections from patients on attributes from staff they appreciate or disparage.

Humanity The first subtheme in the domain of personal attributes involves humanity. According to patients, "good" staff members treat patients humanely. Patients mentioned things such as feeling heard, and mildness, empathy or humanity in the way staff treat them. Furthermore, what patients view as "good" staff members are those who pay attention to the "person behind the patient", know what is going on, remember this and pay attention to it. According to patients, being yourself is also regarded as important in staff members. Though patients understand there is a certain business quality to their relationship with staff, and they do not want to be involved in staff's lives and emotions too much, it should still be possible for staff members to show to patients that they too are human. An excerpt where patients express the importance of humanity is the following:

> Patient 5: Like I said before, they just need honesty, clarity, fairness. And a little bit of attention. I would like it if someone would come by once in a while to ask how things are. I mean, my father passed away four months ago, there were only two guys from the staff who gave me condolences. And I'm supposed to have respect for that [the ones who didn't give him condolences]? Come on!

Promoting independence Patients across the different focus group meetings indicated that they find it important that staff members promote independence and encourage patients to do things themselves. Patients indicate they may need help, and staff members should signal this and offer help, but they explain that a lot of staff members show a tendency to do thing for the patients rather than letting them try for themselves. Patients feel that this does not help them in the long run and in fact may create difficult situations in the future as patients realize that at some point they will have to do certain things on their own (at least most patients) and then may not be able to, or not used to as they always had staff there to do it for them. The next text excerpt highlights this subtheme:

> Patient 1: They take on too much so to speak, for example on the ward ..., the staff does too much for the boys [e.g. patients] who can clean the corridors just fine by themselves, and they [the patients] are hardly addressed....
>
> Patient 2: Yes, on our ward this is also the case
>
> Patient 1: The nurses just do it [a chore] right in front of their nose [the patients] as if there is something wrong with their hands....
>
> Interviewer: And do you think these are good staff?
>
> Patient 1: On that regard I don't think that's good.
>
> Interviewer: Do you think they should say: "Hey you can do this just fine by yourself"?

> Patient 1: They should address them more to uhhhh....
>
> Patient 2: Here [on patient 2's ward] they do actually, the tasks, they do make a list but uhhhh I mean, yes they [staff] see the mess, but they [staff] should just see who has that task and talk to him [patient] about it.

Spending time on the ward An attribute mentioned frequently by patients in relation to how much staff is able to maintain safety is how much time they spend on the ward with the patients, and what staff members do in that time. Patients indicate that they think that patients know earlier than professionals if something is going on or if another patient isn't doing so well. Patients think this is because they spend more time with each other than staff spends with them. They furthermore indicate that "good" staff members spend more time on the ward with the patients. Patients also remark that not only the amount of time is important but also how staff members spend that time. They note that they feel that staff members are sometimes too busy playing games [board games]. Excerpts relating to this subtheme are:

> Interviewer: Yes that is important. But I've also heard things from you guys that you feel could be better, for example they could set more limits.
>
> Patient 1: Yes and they [staff] should more often just be in the living room, present in the group on the ward. And not that you have to ask the neighboring ward "Where are our nurses?".
>
> Patient 11: I just say it's like this, I sit at that table, then you see that screen [in the staff office], then you see them [staff] sitting around and being on Facebook. That's not allowed during work so uhhhm they don't have time for us and that's why they don't see anything.

Equal treatment With regards to maintaining safety, patients find it very important that staff members treat all patients equally, and hold all patients to the same rules and regulations. Patients indicate that if they feel that the rules are unclear, appear to differ between staff members, or if they feel that rules are maintained for some patients but not others, this decreases the sense of security. Patients sometimes observe that boundaries are set for some behaviors of some patients but others showing that same behavior is not held to those boundaries. This creates inequality and annoyance or tension. Some patients furthermore indicate that some staff members have different rules compared to others, which creates confusion and irritation. However, there are also some patients who indicate that there could be more individuality in decisions or the applicability of rules. For example, many patients indicate that they believe that smoking cannabis, which is condoned in general society in the Netherlands, should not be a problem if there are no risk factors specifically related to cannabis use or risk of psychosis.

> Patient 24: I do uhm have an example. A good nurse is someone who treats everyone equally, so imagine you have just had a good conversation with someone, with a nurse, and someone else did not, but the nurse still thinks "ok I'm not going to favor that one". So that it does remain equal so to speak.
>
> I: Not like "oh yes I like that one...".
>
> P24: Yes. Or "that one I just had a good conversation with" or "that one is like that". Just equalize, everybody does the same thing, everybody should do the same thing.
>
> I: And then does that also apply to the rules, or what is and isn't allowed? Should that also be the same for everybody?
>
> P24: Well look uhm some boys need something to do. You have to stimulate them or wake them up or something, but in any case, in the end everything has to be equal, [they have to] treat everyone the same. Yes.

Experience Another personal attribute is experience. Patients differentiate between life experience (e.g., older age) and experience in the field of forensic mental health or the specific hospital where they work. Both are important according to patients. Patients indicate that they struggle with the fact that staff are sometimes quite young (e.g., many staff members are under 30). They do not readily accept advice from young staff members because they do not feel that these staff members "know what they are talking about". More experienced staff (in years of working experience), according to patients, are better able to deal with practical questions but also have a different attitude towards patients. Patients also think that experience contributes to acuity in a sense that more experienced staff more readily notice what is going on. Experienced staff also discuss matters with patients in a different manner, patients feel. They also think that staff members with more years of forensic work experience probably have heart for the cause, since they stayed in this field all that time. Patients say that staff often leave after a short time, which they find difficult since they are left with staff who don't know them, but also don't know practical aspects. In the following excerpt patients discuss the importance of experience:

> Interviewer: So the question was "What is important in staff in relation to safety"?
>
> Patient 10: A bit of experience
>
> Interviewer: Yes?
>
> Patient 10: Yes. Our team is 25 years old on average I would say.
>
> Interviewer: Ok that's pretty young.
>
> Patient 10: Yes. There are girls in there [the team] who are 21. The one that just took

me here [to focus group room] is 23.

Interviewer: And if you think about the difference between people with experience and a girl of 23, what's the difference, what do you like about someone with experience?

Patient 10: That just makes you feel safer, that first of all. And secondly, yes, look, this girl has just arrived, she doesn't know anything. So yes. And they do write about you.

Interviewer: And someone with experience...? They know you better, or...?

Patient10: Yes experience just gives a better feeling, if someone, if someone just has experience. Look and if you work here for 14 years, you also have a heart for who is staying here. People who work here for a year or a year and a half and then leave, they come here just to fill their pockets, they are not here to help you. Also if someone has been working here for 14 years, or 15 or 20 years, first of all they know how things work in the clinic and they know how things can be done and how they can't be done.

Communication

A second domain concerns communication. Patients indicate that this is an important theme in maintaining safety. They differentiate between communication between patients and staff, and between staff members. Problems in communication create irritation and an unstable environment, which can give way to incidents.

Communication with the patient How communication from staff members to patients is framed is very important in maintaining safety. Patients indicate that directness is important; if a staff member "beating around the bush", patients find this difficult and may even experience this as lying, which creates mistrust of staff. Patients also find it important that staff members keep their promises. Staff members should "say what they do and do what they say". This can include small issues: if a nurse indicates that they will come see the patient in five minutes, for example, and then come after half an hour, it is not reliable to patients. Patients indicate that they expect staff to tailor their communication to their personal character and needs (e.g. their personalized Early Recognition Plan). Finally, giving explanations underlying decisions (as much as possible) is also important for patients. In the next excerpt patients discuss how communication from staff can affect them:

Patient 10: When I came here in the beginning, that mentor of mine, he had just worked here a year and a half and he promised me all kinds of things but he couldn't deliver. Then he... I also wanted another mentor then, but that wasn't possible. But what I think is you have to know what you say and not say things you don't even know.

Interviewer: Should someone then say "I don't know, I'm going to find out"?

Patient 10: Yes exactly yes

Patient 10: Not "yes you can have your birdie" come and "you can have that plant" and then my mother is here at the door and then the plant and bird can't go in, you know.

Interviewer: Would you rather someone says to you "I don't know"? That they say "sorry I don't have an answer right now; I'm going to find out"?

Patient 9: That's obvious, that's better. Honest.

Patient 10: Yes. And not saying "yes it can happen" and then in the end it can't, you understand? Look I personally can deal with that, but I can imagine someone [a staff member] getting scissors in the neck or something like that you know.

Communication between staff members The communication between staff members is also relevant in terms of safety, according to patients. Patients experience inconvenience from poor transfers between shifts or individual staff members. Some patients feel that if they approach staff with something, or something happens in the morning, sometimes it appears that the evening shift knows nothing about it. This makes patients feel left alone and misunderstood. Patients also explain that this increases the risk of tensions arising, since staff members who know nothing about things that occurred earlier will also not consider these occurrences when deciding how to handle things during their own shift. Not all patients feel that transference between staff members or shifts is poor, but those who do feel that this is the case mention that they think this decreases stability and safety on the ward. Furthermore, patients also indicate that they find it difficult that they are not always involved in or receive feedback from consultations between practitioners. They do know that there will be a meeting or that certain issues will be discussed and then never hear about it again.

Patient 1: Also there is really, and it really affects me, a lot of miscommunication.

Patient 2: Yes.

Patient 1: Nothing is transferred.

Patient 2: Yes

Patient 1: Then you think, OK, they've handed it over properly, and then I go to the nurses department during the next shift, and they don't know anything about it.

I: Is this about agreements that have been made?

Patient 2: Yes, but also imagine that something happens in the morning, for example a little conflict, a little conflict about cleaning....

Patient 1: In the evening they don't know anything.

Patient 2 ... or just a little conflict, and then uhhhhhh, then I see staff, evening staff, yeah, I was quite bothered by the fact that they didn't pick it up like "hey Patient 2, such and such". So I do think that they lack in that aspect.

Signaling and action

The third domain is about signals of possible escalation patients recognize, whether staff recognize these as well, and how staff can or should act in such cases.

Taking signals seriously When asked if patients feel that staff observe signals of possible escalation, most of the patients indicated that staff does not always take signals, which they consider to be significant, seriously. For example, patients may describe a fellow patient making threats during a ward meeting but see that staff hardly reacts to it. A very specific topic that patients addressed is that they are often not transferred to another ward or hospital at their own request, and that (in their opinion) such a request is not taken seriously. Patients themselves consider a request to be transferred a very serious signal that a particular patient is not doing well at all, or that the working alliance between the patient and the team is extremely damaged. Amongst some patients a belief exists that one has to consider causing a serious incident, for example becoming physically aggressive, before a transfer request is taken into consideration by staff.

Patient 13: Yes, because sometimes, say if someone wants to be transferred and the management says "no, no, he's not going to be transferred," well, how long does a guy like that last?

Patient 12: If he attacks you once, he will be transferred.

Patient 13: Yes. That is common knowledge. When you cause a serious incident you can [unintelligible] leave.

Patient 12: Here things work crooked anyway, you know, that's just what he says. Uhm if you say it in a normal way

Patient 13: Is it not being heard

Patient 12: Yeah, and same as he just said you know, you see nurses, why can't they if someone like that indicates what is going on with him on the ward, if they indicate it normally then nothing can be done, until maybe he freaks out one day and he starts hitting on that other guy and then something can be done.

Patient3 : And acting on time. For example, we once had someone on the ward who said, "I'm going to stab people, this and that" and they [staff] just sit there like that and nothing happens, and two days later he goes on furlough. Yes, how? He threatened to stab someone!

Patient 1: Breaking glasses against the wall.

Interviewer: Did they have this... Don't they realize what is happening?

Patient 2: Yes I think so. I asked for an explanation from staff, like, you have to come and talk to me now because I really don't feel safe. It was explained to me that they are more set up to offer opportunities than to punish.

Interviewer: But you [Patient 2] clearly say "I don't feel safe"

Patient 3: Yeah I just find it bizarre also that someone can just say of "I'm going to stab people" and no action is taken.

I: And do you think the staff see that?

Patient 1: No, because they are not in the living room.

Patient 3: No but also because they don't act. If they had just intervened right away, like "Hey what did you just say, you can't do that, you go to your room". They say "And what do you mean by that...", they ask, but they don't see the seriousness of the threat.

Taking appropriate/prompt action Related to the previous theme but identified as a separate theme, is taking action. Patients indicate that they sometimes do not understand why staff did not intervene sooner. Patients indicate that in their eyes "good" staff is less reluctant to act than staff they regard as less dependable. However, patients explain that to them it is very important that the action chosen is appropriate for the behavior shown. Sending a patient to their room, for example, is not appropriate for someone who expressed feeling alone or deflated for example. Patients also explain that they feel that staff should not take certain actions or put themselves in certain positions, for example going to a remote part of the hospital alone with a patient. However, patients indicate that staff may sometimes take disproportionate action in response to what they perceive as less serious behavior. Below are three excerpts which highlight this subtheme.

Patient 2: For example A. is in the kitchen and he just indicates that there was not enough meat and said "staff also eat here, you earn 2500 euros, just take food from home". That's his opinion. And then immediately the button [alarm button which alerts hospital-wide attention] is pushed. Just because he said that. He didn't

threaten, didn't break anything, he just said "get out of the way, don't touch me" and then he walked past him [staff], he didn't touch him or anything.

Patient 21: Yes then we come back to J. [fellow patient who attempted suicide]. He indicated that he didn't feel well and B. [nurse] thought he should go to his room, I say "What is this?"

Patient 2: Yes, well, I think I can tell something about that, you [Patient 1] flipped out once, and the staff was just too afraid to intervene!

Patient 1: Yes I was ... I "renovating" the whole place, but they didn't touch me. Next day I was just allowed out of my room....

Interviewer: And what do you expect in such a situation?

Patient 1: That they still give me a slap on the wrist, and that they make it really clear to me that either you stay in your cell for a week or uhhh... you just have to learn from it!

Interviewer: So put a stop to it?

Patient 1: Yes!

Limit setting In line with the aforementioned subtheme, patients feel that staff should sometimes maintain a clearer limits, or protect their personal boundaries better. This specifically involves how patients behave towards staff. According to patients, staff should intervene earlier when certain language is used or if they are treated in a disrespectful manner.

Patient 2: I struggle when someone does something for me, I try to do things in return, and then I notice that - in my eyes - certain patients treat staff quite disrespectfully. I tend to be like "hey talk normally to..."

Interviewer: Then you want to respond to that

Patient 2: Yes, I have to uh then I immediately go to staff like "hey listen I thought it was disrespectful how they approached you" you know. And for example this morning, they just say "how was your day, did you sleep well", you can give a normal and respectful answer to that instead of "you don't have to ask me that".

Awareness of dynamics in individual patient lives or on the ward When asked if staff is always aware of dynamics or what is going on, patients indicate that it can vary between different staff members whether staff notice things or notice risk of escalation. Some patients indicated that they might notice quicker than staff if a fellow patient is

withdrawing more or if they say "It's not going well", because they spend more time with fellow patients. However, they feel that staff are more likely to notice if a patient has a weird look in their eyes or (seems to) is slipping into psychosis. Patients indicate that sometimes it is also impossible to notice in advance when an incident is about to happen because it can happen very quickly (e.g., aggressive incidents). Patients overwhelmingly think they are more likely to see it if there are drugs, or if a fellow patient is breaking the rules, than staff. Patients think this may be because staff are not "street wise" and that they cannot notice certain things because they do not have "a radar" like patients do. Patients also think that this cannot be learned. The excerpt below illustrates this:

> Interviewer: And then how often does it happen that staff see something that is going on? Drugs, or a weapon, if it's there, how often do staff members catch it?
>
> Patient 12: Only a few times?
>
> Interviewer: A few?
>
> Patient 12: Yeah man
>
> Interviewer: Yeah? But if you, a fellow patient, would go into his room, do you catch something if it is there?
>
> Patient 12 & Patient 13 [nod]
>
> Interviewer: you do? Then why do I not?
>
> Patient 12: I come from the street and you might not. You have your knowledge from books and I just have a specific life experience.
>
> Interviewer: But if I want to do that, see what you see, if I have to, can you try to explain what exactly you see?
>
> Patient 12: oohhhhh I don't think you can explain that man
>
> Patient 13: I'll give you an example. I work here, I have to inspect cell tomorrow, I have an hour for that. Then I do it quick quick quick quick because I only have an hour.
>
> Patient 12: But even if you have two hours, you have three hours
>
> Patient 13: But even then they have more time…

Noticing contraband and illegal substances In line with the previous theme, patients indicate that especially concerning illegal substances (e.g., drugs), staff are largely unaware of things that are going on. They explain this based on a certain savviness that patients have that staff do not. However, most patients are also very opinionated about the use

of soft drugs especially. Since soft drugs is condoned in Dutch society and alcohol is legal when you're 18 years of age, most patients feel that they should be able to use soft drugs and alcohol Also while admitted to forensic mandated care. They also feel that punishment, for example having to stay in one's room or not being allowed to go on furlough, for soft drug use is not appropriate. Most patients find it "a game" to remain undiscovered by staff and that drugs or other contraband are often hidden in plain sight, "right in front of their nose".

> Interviewer: Is staff good at finding hidden stuff like drugs?
>
> Patient 17: No. I'm sure patients are better than staff are. And then the argument [from staff] is always given that they only have an hour. That also the base of the whole policy with the room inventory, that everything is cleaned up and that they only need an hour. Yes uhm
>
> Patient 18: Yes but there is two sides to that. Suppose you are a dealer, it's like this, they should also be able to grab that and trade within 10 minutes.
>
> Interviewer: Do you think so yes?
>
> Patient 18: Do you really think that he can only get it at night from a very difficult to reach place? Suppose he has 5 grams here, it has to be gone within two days. That must be easy to take or easy to flush down the toilet.

Interactions and relationships between staff and patients, and between patients

The final domain concerns the relation between staff and patients. Patients feel that relations need to be in good standing in order to maintain a safe environment and feel that staff carry responsibility for the quality of those relations.

Relationships between patients Patients indicate that staff can negatively influence the interactions between patients. With certain actions or behavior staff can create tension or problems between patients, thereby affecting the sense of safety. Patients report that staff sometimes "abuse" conflicts in order to obtain information about individual patients. For example, staff will sometimes name patients even though those patients had asked for anonymity or staff should know that this could increase tension. Staff will for example say "H. and T. are saying you are dealing", according to patients. Another topic of importance is which patients are placed on a ward together. Patients indicated that they do not always feel that their living situation is considered when decisions are made about which patients are put together.

> Patient 10: But staff also just misuse certain conflicts among patients. You know they just use that to get information say uhmm... They just say "this person and this person said this", well then uhhh

> Patient 9: Right, they abuse that, because they want everything their way
>
> Patient 10: Well but also to find out something, you know. They just say "P. said that you deal drugs" or something like that.
>
> Patient 11: Yes, yes, yes, that is often the case.

Professional relationship between staff and patients Patients feel that given the subthemes and factors mentioned previously, especially the personal attributes from staff, most staff members do come to work having good intentions. A number of factors can influence how patients perceive the relationship with staff. For example, patients sometimes experience that openness is requested but when patients are open about things (for example, about using soft drugs), they still face consequences, which they perceive as punishment. Patients find this difficult to understand within the context of treatment which leads them to be less open about certain issues. Patients indicate that there can be an us-versus-them culture toward staff. Some patients indicate that former prison staff can be a bit more authoritarian and less care-oriented than those coming exclusively from a (forensic) mental healthcare background.

> Patient 8: I understand that a clinic says no drugs are allowed because some people go uhhh, get totally crazy when they use. So I understand that on the one hand, but on the other hand I think you're never going to stop it. Personally, I think it is very bad that, look I have been here for two years now, and I only managed since last week that when I use soft drugs, I can still go to my therapies. For a year and a half I was not allowed to go to therapy because I had to stay in my room. In therapy I work on my risk factors. And on safety. So if I smoked a joint on Friday, and I'm somebody, I just walk up to you and I say "I smoked weed," just like last night I say "close my door because I'm using soft drugs," then no one is bothered by me. I feel that I can just go to my therapy the next day.

Discussion

In the current study, we explored patients' views on which qualities, skills, traits, and characteristics patients regard as important for forensic metal health professionals in order to be forensically vigilant (and thereby maintain a safe environment for patients and staff). Analyses revealed 14 subthemes divided over four overarching domains: personal attributes of professionals, communication, signaling and action, and interactions and relationships between staff and patient and between patients.

There are many similarities between themes highlighted as imported by patients, and themes found to be important in forensic vigilance in earlier research. However patient views contributed valuable information about the practical aspects of certain themes, or

why certain themes are important in relation to maintaining safety. In terms of personal attributes, years of forensic work experience has been found by Clercx, Keulen-de Vos et al. (submitted) to be predictive of forensic vigilance. Patients also highlight the importance of years of age, besides years of work experience. The relationship between years of age and forensic vigilance has not been investigated previously. However, the current study points to the age of staff members as an important issue. This may be the case because patients struggle with relying on (very) young staff members or asking them for advice. Other subthemes mentioned by patients are humanity, promoting independence, spending time on the ward and equal treatment. This is in line with previous studies that reported of that displaying warmth, honesty and showing a genuine interest in getting to know the patient and spending time with the patients on the ward is important in establishing a relationship with a patient (Gildberg et al., 2010; Marshall & Adams, 2018; Rask et al., 2008). According to patients in our study these attributes are linked to professionals' capacity to be forensically vigilant. For example, patients indicate that one of the main reasons that they notice it sooner when a fellow patient is withdrawing or of there is tension on the ward is how much time professionals spend time with patients on the unit.

Communication is also important in forensic vigilance, especially communication between professionals (Clercx, Peters-Scheffer et al., submitted). In this study, patients highlighted its importance in relation to (sense of) safety. The communication from staff to patients was also a distinct subtheme in the current study. Marshall and Adams (2018) found that being transparent, engaging, accepting, supportive, and sincere throughout communications is important for patients. Patients in our study indicated that this type pf communication can influence the apparent trustworthiness of staff members, and that certain types of communication can increase tension. Patients indicated that professionals should communicate in a direct and clear but emphatic manner tailored to the problems of the patient in question. Professionals should "say what they do, and do what they say".

Concerning the domain 'signaling and action', both aspects have been highlighted in forensic vigilance in previous studies (Clercx, Peters-Scheffer et al., submitted). For example, the meta-analysis by Gildberg et al. (2010) found that 'controlling and observing' and 'putting up limits, confronting and rule enforcement' are important in the behavior of forensic mental health professionals. Perhaps the most notable finding of the current study is that according to patients, professionals do not always take signals seriously. Perhaps professionals become desensitized to certain behaviors. However, since patients are surrounded by the same behavior it is striking that they do perceive these signals as serious (and are thus not desensitized). Along that line, patients also feel that professionals should sometimes intervene sooner. Earlier work has identified possible reasons of aggression, which include the quality of the communication between staff and patients or feeling disrespected by other patients (Fagan-Pryor et al., 2003). Perhaps staff are more fixed on other signals, such a signals of medication failing to work, or experience a certain willingness to act unless there is a threat perceived as immediately potentially dangerous (Jacob et al., 2009).

Finally, patients discussed the importance of good relationships between patients and professionals and between patients in relation to forensic vigilance. Especially the finding that patients feel that professionals can influence the relationships between patients, often negatively, is noteworthy. Professionals can create tension or problems between patients with certain actions such as naming names in investigations.. Earlier research also showed that low cohesion between patients leads to lower levels of (experienced) safety (Dickens et al., 2014). Actions from professionals can, according to the findings presented here, influence the cohesion between patients.

Strengths, limitations and recommendations for future research

A strength was that patients were interviewed in an open format allowing them to associate within the main theme freely This study studied patient views exclusively, and themes mentioned by patients were not related to viewpoints of professionals, nor did we collect forensic vigilance scores. Further research should investigate whether themes mentioned by patients in relation to forensic vigilance are recognized by professionals. Furthermore, future research should investigate whether there is in fact a relationship between these and the number of incidents or the amount of conflict between patients and professionals. Another limitation is the inclusion of only two forensic hospitals. Though we do not have reasons to believe that patient views in this study would be notably different from patients from other studies, and we did include patients from 14 different wards including wards with a lower security level and different therapeutic environment, this limitation should be considered when generalizing our findings. Future work should include patients from more forensic hospitals but should also include forensic outpatients, and should also explore patients' views from different countries (where forensic mental healthcare may differ) and cultures.

Implications for practice

The views expressed by patients allow for a number of implications for practice. We highlight the importance of a humane attitude towards patients and emphasize that professionals should, where possible, promote independence and not take over from the patient. Professionals should therefore , with each action they take for patients, think whether the patient could also be assisted to undertake this action themselves, and how. We furthermore recommend professionals to spend as much time on the ward as possible but also to think about how to spend that time with patients. Professionals should strive to treat patients equally whenever possible. As also highlighted in earlier studies (see for example Clercx, Peters-Scheffer et al., submitted), experience is important, not only in terms of years of work experience but also in terms of years of age. Forensic mental healthcare institutions should make efforts to retain professionals, especially the "older" ones, and benefit from professionals with many years of work experience by having them coach younger and/or newly hired professionals.

In terms of communication, professionals should strive for clear and direct communication, and ensuring verbal agreements are upheld by actions. Professionals should just tell patients if they do not know an answer, but should also emphasize what they are doing to find the answer. Professionals should also check with patients whether the communication is sufficient at that time. In communication between professionals, focus should be placed on proper information transfer between professionals, which has also been stressed in earlier studies (Clercx, Peters-Scheffer et al., submitted). In this communication it is recommended professionals focus on observations they deem relevant in relation to possible escalation (e.g. of 'stable' to 'unstable'). Communication between professionals could take place in shift transfers, but should also be recorded for the long term (for example in daily reports). Other professionals have to make the time to receive relevant communication and read up on written communication. The communication between professionals could for example be structured into the four steps of forensic vigilance found by Clercx, Peters-Scheffer et al. (submitted): observation, interpretation, communication and action. What has been observed, and how are those observations interpreted by the professional? What has been communicated and which actions have been or should be taken? Professionals should also report back to patients about consultations between professionals whenever possible. As much as possible it is recommended to follow the same structure as between professionals. Thus; which observations have staff members made, and how are these interpreted? Does the patient recognize these observations and is the interpretation possible/correct? And which actions would the patient like to take?

With respect to signaling and action, professionals should take threats and requests to be transferred seriously, as patients indicate these should be, for example by engaging in a private conversation with the patient. Professionals should, when a patient makes a threat or request to be transferred engage in communication and strive to find the underlying issue. Professionals should then strive to guide the patient back towards stability regarding this issue whenever possible, or eventually consider agreeing to a transfer. In this process open communication, and showing the patient that they are heard are important. Professionals should also maintain their own boundaries and not simply accept disrespectful treatment as this can create an atmosphere of tension among patients, but also give rise to the idea that the professional in case is "weak". If a patient talks to a staff member in a disrespectful manner, this should be addressed in a direct, and clear manner. Patients indicate that professionals are often unaware of tension on the ward, or when there are contraband, and that patients may know better. Possibly this is not changed easily, however, professionals should be aware of this.

Concerning the relationships between patients and professionals, patients indicate that measures experienced as punitive after being open can harm the therapeutic relationship. Often, which actions should be taken in response to certain behavior, for example illicit drug use, are mandated by hospital policy or even national regulations

or laws. The effect on patients, and the fact that patients are supposedly treated in a therapeutic environment should be considered when devising such policies, regulations or laws. Perhaps more focus could be placed on the therapeutic manner of dealing with (limited) relapses in soft drug use, instead of punitive action. Thus; explore the reasoning behind the drug use with the patient and aid them back towards abstinence (as much as possible). If there are risks associated with the use of illegal substances, these may have to be addressed, which could be perceived as punitive. For example, if someone shows more signs of active psychosis after soft drug use, staff may still opt to temporarily seclude the patient to give them rest. However, staff should at all times try to explain that it is because of the potential risk that certain actions are taken, and not as a punishment. Staff should still therapeutically explore the reasoning behind the drug use. With hard drug use or continued soft drug use it is conceivable that a restrictive approach cannot be avoided by staff. However, in such cases professionals should strive for open and clear communication, and whenever possible explain the reasoning behind their decisions and actions. Finally, professionals should be aware of the influence of their actions on the relationships between patients, for example when they name names of fellow patients in order to obtain information. Professionals should try to avoid naming patients as much as possible, and if avoidance is not possible take appropriate action to maintain a safe ward climate. It is conceivable that in more extreme cases one of the patients has to be transferred to protect their safety, but perhaps in other cases an open conversation with all patients involved could decrease tension. In such conversations emphasis should be placed on the therapeutic aspects ("why did you feel it necessary to alert us of X") next to focusing on discovery of facts.


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CHAPTER 7

Summary and general discussion

Individuals who committed a crime (partially) due to the presence of one or more mental disorders are viewed as a distinct group in large parts of the world, and are offered treatment rather than solely being incarcerated (Arboleda-Florez, 2006; McIntosh et al., 2021; Papalia et al., 2019). Forensic mental health institutions are markedly different from prisons where the focus is typically placed on confinement. However, these type of institutions are also distinctly different from civil (e.g., non-forensic) mental healthcare settings since professionals in forensic mental healthcare do not only provide care but are also an agent of power, guarding the security within the institution and the safety of society. Forensic mental healthcare institutions form a distinct work environment for professionals due to this duality, which also causes many ethical dilemmas (Keulen-de Vos & de Vogel, 2022; Marshall & Adams, 2018; O'Dowd et al., 2022). Another major difference with civil (e.g., non-forensic) treatment is the underlying goal. In civil mental healthcare the main aims are symptom reduction, increasing self-empowerment of patients, and well-being and quality of life experienced by patients. Whenever possible, the patient's own goals shape the treatment or intervention (Van Os et al., 2019). In forensic mental healthcare, however, the main goal is to reduce recidivism risk, which is often done by adhering to the Risk-Need-Responsivity principles (Andrews & Bonta, 2017). These principles shape treatment by providing the most resources to those who pose the highest risk (Risk-principle), by focusing treatment and interventions on decreasing criminogenic needs (Needs-principle) and by adapting treatment or intervention to the learning style of the individual patient (Responsivity-principle). The uniqueness of the field of forensic mental health may require a unique set of skills from professionals.

The Netherlands especially has a rich history of providing treatment to offenders with mental disorders (De Boer & Gerrits, 2007; Jehle et al., 2021; Messina et al., 2019). The term '*forensische scherpte*' has been used frequently for some years to indicate a specialistic skill needed by forensic mental healthcare professionals. The literal translation of the Dutch term '*forensische scherpte*' is 'forensic sharpness' in English. Since this term does not entirely convey the meaning intended in Dutch, which includes attention (to one's surroundings), watchfulness and awareness of (possible) threat or escalation of the situation into danger, we have translated the term to English as 'forensic vigilance' in consultation with international experts. The exact origins of this term are unclear, but it gained momentum after several tragic and widely reported events with Dutch forensic psychiatric patients, most importantly the case of Michael P. (*Onderzoeksraad voor de Veiligheid*; 2019). Michael P. was a patient of a forensic psychiatric hospital when he raped and murdered a woman, Anne Faber, while on unsupervised leave, causing a national media outcry. Since then the term 'forensic vigilance' has become increasingly widespread, and it is for example used in job listings, interviews with healthcare professionals (for example Weeda, 2019), official incident research reports (*Inspectie Justitie en Veiligheid*, 2018; 2019; 2020), policy documents of (semi-)government agencies (*Onderzoeksraad voor de Veiligheid*, 2019) and, most importantly, in daily practice between forensic mental healthcare professionals. Despite its widespread use, the term was

not defined unambiguously. In fact, (slightly) different descriptions of the term were given almost each instance the term was used (see for example van Ewijk, 2019; Meynen, 2019 or Poelmann, 2019). Next to lacking clarity, none of the definitions were based on scientific research. Despite ambiguity, much importance was and is given to forensic vigilance, as a lack thereof was named the cause of incidents in several cases, including the case of Michael P. (see for example *Onderzoeksraad voor de Veiligheid*, 2019; *Inspectie Veiligheid en Justitie*, 2017; *Inspectie Justitie en Veiligheid*, 2020). Furthermore, job openings often ask for a candidate possessing forensic vigilance, and reports about the state of forensic mental healthcare in the Netherlands draw conclusions about the presence thereof and the consequences for the safety in forensic mental healthcare (Anderson Elffers Felix, 2018; Significant Synergy, 2021).

On the basis of the weight given to forensic vigilance in the field of forensic mental health, the importance of research to enhance clarity and more knowledge of the construct of forensic vigilance was evident. The aim of the current thesis was to provide a definition of forensic vigilance with a scientific foundation. Goals of this thesis furthermore included developing a reliable instrument to measure forensic vigilance, and to investigate if individual attributes of professionals are related to forensic vigilance (such as personality traits, work experience, workplace related stress etc.). Finally, the aim was also to investigate whether forensic vigilance is related to the occurrence of incidents and professionals' ability to maintain safety in forensic mental healthcare institutions.

Summary of findings

The lack of an unambiguous definition with a scientific basis is problematic for several reasons. First, a lack of unambiguity hinders clear communication. As also evidenced by the variety of descriptions of forensic vigilance given by different authors (see for example van Ewijk, 2019; Meynen, 2019 or Poelmann, 2019), ambiguity leads to parties not talking about the same construct, or at least not knowing for sure that they are talking about the same thing. Moreover, the lack of a clear definition hinders measurement of the construct, further research and theory building. The first study in this dissertation (**Chpt. 2**) aimed to provide an initial definition of 'forensic vigilance' and examine which aspects are part of this construct and which are not. Thirty statements about possible aspects of forensic vigilance were formulated in consensus among the study's authors, based on their professional knowledge and conversations with other forensic healthcare professionals. These statements were presented to 700 Dutch forensic mental healthcare professionals in an online survey. The professionals had to indicate how much they endorsed each of the 30 statements using a Visual Analog Scale (VAS; Crichton, 2001) of 100 mm, ranging from 'totally disagree' at 0 mm to 'totally agree' at 100 mm. The most endorsed statements were "Forensic vigilance is being able to recognize even subtle signs of possible escalation or danger" and "Forensic vigilance is daring to be assertive". Fifteen statements were endorsed with a mean of 70 (mm) or more. The Cronbach's α of these 15 items was

good. The professionals considered forensic vigilance very important in their daily work (μ = 89.01 mm out of 100). Based on the most endorsed statements, we have defined forensic vigilance as:

> *"Forensic vigilance is anticipating on possible escalation of a situation before it happens by actively observing your surroundings and colleagues, and knowing when an observation requires action. Forensic vigilance requires awareness of the patient(s), their mental disorder, criminal history and awareness of the context of a forensic setting. It is being able to recognize even subtle signs of possible escalation, the capacity to communicate with colleagues about observations, doubt, uncertainty or gut feelings, and the willingness to act when necessary."*

Following the development of a definition and identification of important aspects of forensic vigilance, the focus of the second study was to develop an instrument to measure forensic vigilance. The 15 highest scoring items of the first study were converted into self-report items. In **Chpt. 3**, the development of this instrument is described and its psychometric properties are examined. The Forensic Vigilance Estimate (FVE) was presented to 367 Dutch forensic mental healthcare professionals and 94 non-forensic mental healthcare professionals in an online survey. Of the forensic professionals, 154 participated in the repeated measurement, on average 12 days after the first measurement. The results showed that the FVE has good psychometric properties, reflected in good to excellent internal consistency (Cronbach's α of .903), good split-half reliability (.884), and good test-retest reliability (.809). The factor structure of the FVE was best represented by a one-factor model. Forensic professionals scored significantly higher on the FVE than non-forensic professionals. These results suggest that the FVE can reliably be used for research purposes.

Although the term forensic vigilance was first introduced in relation to (serious) incidents, the hypothesis arose that the construct is also related to individual differences among professionals, and that forensic vigilance may influence how capable professionals feel in their work. In some incident reports, a relationship between forensic vigilance and work experience was observed (e.g., *Inspectie Justitie en Veiligheid*, 2020). Furthermore, earlier research among forensic nurses and non-forensic nurses found that firmness, limit setting and a non-judgmental attitude were more important for forensic nurses than non-forensic nurses (Bowen & Mason, 2012). These behaviours and skills may come more naturally to people with certain personality traits (for example those low in Agreeableness) than to others. Conversely, given the complex nature of forensic mental healthcare, it can also be hypothesized that other personality traits, such as neuroticism, may show an inverse relationship with forensic vigilance. Finally, since forensic mental health care is complex, and patients present with complex issues and may become aggressive or violent (see for example Nijman et al., 2005), this work can be stressful (see also AEF, 2018). However, perhaps forensic vigilance mediates the level of stress experienced by professionals, as those who are more forensically vigilant may feel more competent in their work, which is associated with lower experienced stress levels (Paoline & Lambert, 2012). Professionals

higher in forensic vigilance may also be less likely to experience aggression because hypothetically these professionals intervene earlier and are more successful in curbing potentially dangerous situations. Conversely, stress or burnout symptoms may potentially reduce the capacity for forensic vigilance as stress can reduce the ability to focus, observe and process. **Chpt. 4** examined which professional and individual factors are associated with forensic vigilance, and whether forensic vigilance is related to work stress and burnout symptoms. In this study, 283 Dutch forensic mental health professionals completed an online survey. The results showed that work experience in forensic mental health care, but not general mental health care, predicts forensic vigilance. Work experience in forensic mental health predicted 4.3% of the variance in forensic vigilance. Furthermore, three of the five personality dimensions were found to predict forensic vigilance. Neuroticism showed a negative relationship with forensic vigilance, and Openness to Experience and Conscientiousness had a positive effect. Together with work experience in forensic mental health, personality traits predicted 20.6% of the variance in forensic vigilance. Forensic vigilance was not predictive of work-related stress, burnout symptoms and job satisfaction, nor were these predictive of forensic vigilance. There was one exception: the subscale Personal Accomplishment was positively related to forensic vigilance.

Serious incidents occur regularly in forensic mental health institutions. These incidents may for example include aggression and violence, both between patients and towards staff, arson, (attempted) escape or unauthorized absence, or (attempted) suicide (Büsselmann et al., 2020; Gannon et al., 2012; Huitema et al., 2018; Martin et al., 2018; Nicholls et al., 2009; Voulgaris et al., 2018). Incidents can delay treatment progress, can damage the therapeutic climate and social acceptance of forensic mental healthcare, and can increase staff stress (Van den Bossche et al., 2012; Bowers et al., 2011; Fluttert et al., 2010; Verstegen et al., 2020). Based on the definition of forensic vigilance and its important aspects (**Chpt. 2**) and the everyday use of the term (see, for example, AEF, 2018; *Ministerie van Justitie en Veiligheid*, 2020), forensic vigilance is assumed to play an important role in preventing incidents, aggression, and dangerous or unlawful situations; however, it is unclear how. **Chpt. 5** used reports of serious incidents that occurred in forensic hospitals to examine how (a lack of) forensic vigilance contributes to the occurrence of incidents. By means of thematic analysis and interpretive phenomenological analysis (IPA) this study explored and described the role of forensic vigilance in the occurrence of incidents. Eight forensic psychiatric hospitals in the Netherlands contributed a total of 69 anonymized reports of serious incidents. Five key themes emerged from the analysis. These included four core skills that professionals need, namely observation, integration, communication and action, which each need a number of prerequisites (e.g., knowledge). The fifth theme specifies that the professional needs to "connect the dots" meaningfully. This is a highly cyclical process in which the core four skills are steps. The forensic context determines how the "dots" are connected and weighed, and which risks need to be considered. A model of this process and the necessary conditions for professionals is presented in **Chpt. 5**.

The construct of forensic vigilance has been defined based on research among professionals (**Chpt. 2**). However, patients' experiences and views are indispensable in describing the practical application of this construct. **Chpt. 5** includes a study based on focus group discussions with 26 forensic psychiatric patients. The aim was to discuss which qualities, skills, traits, characteristics and communication style patients consider important for forensic mental healthcare professionals to create and maintain a safe environment for patients and staff. Thematic analysis revealed 14 subthemes divided into four overarching domains: personal characteristics of professionals, communication, signalling and action, and interpersonal relationships. The results of this study showed similarities with results presented earlier chapters (**Chpt. 2**, **4** & **5**) in this thesis and provided information on practical aspects.

Key findings

In this section, the findings from the individual chapters are collated into two main findings, which are discussed below and integrated with knowledge from earlier studies. Clinical implications are also discussed.

Key finding 1: Forensic vigilance is a core competency of forensic mental health professionals

Throughout this thesis and earlier scholarly work evidence can be found that forensic vigilance is a core competency of forensic mental healthcare professionals. The first study in this thesis showed that professionals working in the forensic field in general regard forensic vigilance as highly important in their work, as the mean VAS score to the question "How important is forensic vigilance in your work?" was 89.09 mm (on a VAS scale ranging from 'not important at all', at 0 mm, to 'very important', at 100 mm). The results of the first study also indicate that forensic vigilance is largely something that professionals should have or do as most high-scoring statements include elements such as "being able to…", "knowing …", "anticipating" and "being aware of…" (**Chpt. 2**). All of these require something from the forensic mental healthcare professional, indicating that forensic vigilance seems to be a skill or competency professionals can, and perhaps should, have. Furthermore, the results from the second study (**Chpt. 3**) showed that forensic mental healthcare professionals scored higher on the Forensic Vigilance Estimate (FVE) than non-forensic mental healthcare professionals. This supports the notion that forensic vigilance is something needed by those working in the field of forensic mental health but not by those working in civil mental health. If forensic vigilance was a generalist competency all mental healthcare workers needed, one would have expected that the two groups to score about equal, which they did not. Findings of the third study further support this notion. As results showed, work experience in forensic mental healthcare positively predicted forensic vigilance but work experience in general mental healthcare did not. Again, if forensic vigilance was needed by all mental healthcare

professionals one would expect work experience in general to predict forensic vigilance as well. Other findings from this study indicated that the Big Five personality trait Neuroticism was negatively related to forensic vigilance, while Openness to experience and Conscientiousness positively predicted forensic vigilance (**Chpt. 4**). The fact that personality traits are related to the construct of forensic vigilance indicates that forensic vigilance is something that professionals have (or not). However, combined, forensic work experience and personality traits only predicted a small part of the explained variance in forensic vigilance. Though it can be regarded as positive that some of the contributing factors to forensic vigilance have been identified, the fact that these only explain part of the variance also point to forensic vigilance being both complex and a competency. After all, if personality traits explained a very large proportion of the variance, it could be argued that forensic vigilance was simply a combination of personality traits. The same holds true for work experience. The fact that work experience contributes to forensic vigilance, and is noted by patients as important (**Chpt. 6**), indicates that while forensic work experience is relevant, it is not solely explanatory of forensic vigilance. On the basis of these results it is more likely that the 78% of forensic mental healthcare professionals participating in the first study who think forensic vigilance is a combination of training and experience (**Chpt. 2**) are (at least partially) correct. These results further imply that even professionals with many years of work experience in forensic mental health could have insufficient forensic vigilance, as this clearly needs other factors as well.

In the fourth chapter five important themes were identified in relation to the role of forensic vigilance in serious incidents, all requiring skill or competency from professionals. Four of the themes were named in that study as core skills needed by professionals, namely observation, integration, communication and action. The fifth theme of this study specifies that the professional needs to "connect the dots" meaningfully, which again requires a competent or skilled action from the professional. The forensic context determines how the "dots" are connected and weighed, and which risks need to be considered. Specifically the risk considered is the "forensic risk", which is defined by Kettles (2004) as

> *"Forensic risk is the clinical probability of a negative consequence, related specifically to the behavior of those patients who are committed by law, or who are diverted from custody, to forensic settings and who have the potential to cause serious, physical and physiological harm to others. This includes those fear inducing impulsive, intimidating, manipulative and destructive behaviors that are displayed or have been known to be displayed" (p. 491).*

According to patients' views, which were explored in **Chpt. 6**, professionals can influence this risk positively (for example by communicating in a clear and direct manner) or negatively (for example by naming fellow patients' names in search for contraband).

Furthermore, the way the term has been and is currently used also points to forensic vigilance as a competency of forensic mental healthcare professionals, and an important one at that. This holds true for incident reports from Inspection services or other (semi)

government agencies (see for example *Inspectie Justitie en Veiligheid*, 2018 or *Onderzoeksraad voor de Veiligheid*, 2019) but also the day-to-day use of the term among professionals. For example, in the incident reports investigating the case of Michael P., forensic vigilance was also attributed to staff as one of the main conclusions was that "staff of the forensic hospital had been lacking in forensic vigilance" (*Onderzoeksraad voor de Veiligheid*, 2019). This highlights that forensic vigilance is something (a skills or competency) that professionals should have (had). It also highlights that this skill or competency is an important one, as the occurrence of the incident was attributed to a lack thereof. Forensic vigilance has also been described as something that is "missed by treatment professionals" (van der Wolf et al., 2020). Furthermore, and as highlighted in the introduction of the present thesis, many job openings list forensic vigilance as a desired competency needed by the applicant, further pointing to the importance of forensic vigilance in professionals.

Though the origins of the term are Dutch, it is hypothesized that forensic vigilance is an internationally relevant construct. A distinct specialty in forensic mental healthcare professionals has been described by several scholars (Jae-Woo & Hye-Jin, 2021; Koskinen et al., 2013; Romain-Glassey et al., 2014), though this specialty was not specifically named. In fact Koskinen et al. (2013, p. 322) mention "These are essential competence areas, yet difficult to define and describe." Furthermore, several other scholars have written about distinctions between forensic and civil mental healthcare when it comes to specific professionals roles, such as "the forensic mental health nurse" or "the forensic psychiatrist" (Holmes, 2005; Jacob, 2012; Martin, 2001; Timmons, 2010). However, the Dutch term indicates a different competency compared to civil psychiatry, which is needed by all forensic mental healthcare professionals, regardless of their specific professional roles. Furthermore, several studies have found that competencies needed by forensic mental healthcare professionals differ from those needed by non-forensic mental healthcare professionals (Mason, Coyle & Lovell, 2008; Mason, Lovell & Coyle, 2008). These competencies show similarities to those identified in this thesis. Skills or competencies needed by forensic mental healthcare professionals identified in previous studies include for example clinical knowledge and knowledge of offending behavior, communication skills (Mason, Coyle & Lovell, 2008), aggression management (Mason, Lovell & Coyle, 2008), age and work experience (Koskinen et al., 2013) and the abjection of fear/willingness to act (Jacob et al., 2009), which are all part of forensic vigilance as it is presented in this thesis. The significance of the finding that forensic vigilance is a core competency of forensic mental healthcare professionals is noteworthy and should inspire forensic mental healthcare institutions to assess the levels of forensic vigilance among their employees, and offer them training and supervision where needed.

Based on the results of the study in **Chpt. 2**, conversations with professionals in the field of forensic mental healthcare, and other sources (for example *Inspectie Justitie en Veiligheid*, 2018; AEF, 2018; *Onderzoeksraad voor Veiligheid*, 2019; Weeda, 2019), forensic vigilance may be closely linked to other central concepts in the field, such as risk assessment and relational security, but it is also distinctly different. Risk assessment is excellent for

formally predicting the actuality of risk factors on both the short term (Braithwaite, et al., 2010) and long term (for example with the Historical, Clinical and Risk Management; HCR-20V3; Douglas et al., 2013). Though forensic vigilance also includes anticipating on possible risks, risk assessment is more formal and more structured, while forensic vigilance also includes a component of clinical judgement and also includes 'gut feelings', for example. Professional intuition has previously been described as a relevant information source (Bowring-Lossock, 2006; Hammarström et al., 2019; O'Dowd et al., 2022). Furthermore, forensic vigilance includes communication and action to curb possible risk. Forensic vigilance also shows a close relationship with relational security (see for example de Vries et al., 2022) and the constructs show some overlap. Relational security is "difficult to describe" (Tighe & Gudjonsson, 2012) but encompasses quantitative aspects such as the patient to staff ratio and aspects such as the team's ability to maintain limits and deliver therapy. Relational security also includes focus on a prosocial team culture (Tighe & Gudjonsson, 2012; de Vries et al., 2022). In forensic vigilance communication is an important component, which explicitly includes communication within the team, but also recognizes the fact that professionals have to observe and address colleagues as well. Communication with the patient (wherever possible) is also named as important in forensic vigilance. Furthermore, in relational security attention is given to knowledge of patient histories, which is also important in forensic vigilance, though in forensic vigilance general professional knowledge is also named as a separate prerequisite. In forensic vigilance explicit attention is given to meaningfully connecting and interpreting signals which professionals observe. Finally, the recognition of gut feelings is unique to forensic vigilance, when compared to relational security. Both relational security and forensic vigilance are hypothesized to be important in maintaining a safe environment for patients and staff.

Clinical implications

The main clinical implication resulting from this key finding that forensic vigilance is a core competency of forensic psychiatric professionals is that institutions should make efforts to assess and enhance forensic vigilance. Since work experience does predict forensic vigilance to a degree, forensic mental healthcare institutions should make efforts to retain those with a lot of work experience (though in the current job market with many unfilled positions, experienced professionals are both highly sought after and due to the ageing population increasingly sparse). Where possible, institutions should benefit from their work experience by having them coach younger and/or newly hired professionals. More experienced professionals can also be consulted in the development of a training program in forensic vigilance. Furthermore, now that forensic vigilance is more defined, hiring processes can be shaped accordingly, targeting individuals with specific personality traits, assertiveness, observation skills, and good communication skills (though current circumstances and a nation-wide shortage of mental healthcare professionals may significantly challenge such selection). In similar vein, training programs for forensic

mental healthcare professionals can be more focused and targeted to the documented aspects of forensic vigilance, perhaps with the aid of experienced professionals and based on patients' views. Forensic vigilance should, since it is such a core competency, be the focus of regular supervision, of team meetings and of staff monitoring and mandatory training programs of forensic mental healthcare institutions.

Key finding 2: Forensic vigilance is important in maintaining safety in forensic psychiatric settings

The second key finding is that the core competency forensic vigilance is important in creating and maintaining safety in forensic psychiatric settings. Severe incidents like aggression and violence (both between patients and towards staff), fire setting, absconsions and (attempted) escapes, self-harm, (attempted) suicide and intimate relationships between staff members and patients occur regularly (Adshead, 2012; Büsselmann et al., 2020; Dixon-Gordon et al., 2012; Gannon et al., 2012; Huitema et al., 2018; Martin et al., 2018; Nicholls et al., 2009; Voulgaris et al., 2018). Incidents can harm the therapeutic alliance and ward climate, can increase stress among staff, can harm treatment progress and can be detrimental for societal acceptance of forensic mental healthcare (van den Bossche et al., 2012; Bowers et al., 2011; Fluttert et al., 2010; Verstegen et al., 2020). The prevention of incidents is therefore important. This cannot be done by solely relying on environmental security or standardized protocols (Kennedy, 2002; Markham, 2022). In the first study **(Chpt. 2)** a definition of forensic vigilance was presented. This definition in itself highlights the importance of forensic vigilance in preventing incidents as it encompasses elements of anticipating on possible escalation, which is described by scholars (Fluttert et al., 2008; Freedberg, 2008) as an important task of forensic nurses. In fact, the management of violence and aggression is largely the job of forensic mental healthcare professionals (Mason, Coyle & Lovell, 2008), as environmental (e.g., walls) and procedural security (e.g., routines for checking patient rooms) are deemed less important than relational security (e.g., security provided by the therapeutic alliance with staff; Kennedy, 2002). Furthermore, statements that focus on preventing incidents were among the highest scoring statements in the first study (**Chpt. 2**), such as "Forensic vigilance is being 'hyperalert' in order to prevent incidents", "Forensic vigilance is anticipating possible ways in which a situation can escalate before it happens" and "Forensic vigilance is being able to recognize even subtle signs of impending danger/possible escalation". In the second study (**Chpt. 3**) items that involved preventing the occurrence and escalation of dangerous situations, aggression or incidents were also all items where forensic mental healthcare professionals scored significantly higher than non-forensic mental healthcare professionals. These findings indicate that preventing incidents and maintaining safety is one of the main, if not the most important goal of forensic vigilance. Furthermore, the fact that non-forensic mental healthcare professionals scored significantly lower on these items indicates that preventing incidents is perhaps not a core task in their work (though

non-forensic psychiatric professionals face aggression and violence too, see for example Happell, Pinikahana & Martin, 2003). In **Chpt. 5** we used investigative research reports of severe incidents that occurred in forensic psychiatric hospitals to investigate if and how forensic vigilance plays a role in the occurrence of incidents. This study resulted in a schematic model of forensic vigilance consisting of four core skills needed by professionals, namely observation, interpretation, communication and action. Forensic mental health professionals need to 'connect the dots' meaningfully with the specific consideration of forensic risk in order to prevent aggression, violence or unlawful behavior. The dots are the four core skills, which each need competencies (e.g., observation and communication skills), attitude (e.g., attenuation towards things that are "off") and knowledge (e.g., general professional knowledge and knowledge of individual patients history, early recognition signals etc.). This study showed that there is a lack of forensic vigilance if professionals do not properly observe available signals, if they fail to meaningfully connect and interpret signals, if they fail to communicate about the observations and interpretation thereof, if they fail to take action or a combination of the above. In most reports there was a lack of forensic vigilance if professionals failed to 'connect the dots'. This could in turn lead to the incident, illustrating the importance of forensic vigilance in the occurrence of incidents. In **Chpt. 6**, where patients' views were explored, results showed that professionals can both directly influence the occurrence of incidents with certain behaviors or actions (by for example creating tension by naming patients in search of contraband), but also fail to prevent an incident from occurring by either misinterpreting signals or failing to take action. These findings are in line with the model presented in **Chpt. 5** and results of other studies, and highlight the role of forensic vigilance in the occurrence of incidents.

Scholars have described possible reasons of impatient aggression, which include internal or patient variables (such as their mental illness or personality problems), and external variables such as ward variables (e.g., the ward being too crowded) and staff variables (e.g., staff inaccessibility or communication problems with staff; Daffern et al., 2004; 2011; Nijman et al., 1999; Pulsford et al., 2012). Staff factors which contribute to incidents in earlier studies show similarities to findings presented in this thesis. However, the role of forensic vigilance as it is described and defined in this thesis is to prevent incidents resulting from other factors, such as ward variables or patient variables, as well. Obviously, professionals cannot prevent mental illness from occurring, no matter how forensically vigilant they are, and they may not be able to prevent ward factors from occurring either. However, forensic vigilance does play a role in staff members recognizing that a specific patient is showing more symptoms of mental illness over time and that this patient is becoming more unstable (patient variables that relate to aggression; Daffern et al., 2004; 2011; Nijman et al., 1999; Pulsford et al., 2012). Forensic vigilance also plays a role in recognizing the influence of the ward climate on a specific patient (ward variables that relate to aggression; Daffern et al., 2004; 2011; Nijman et al., 1999; Pulsford et al., 2012). Forensic vigilance entails that these observations should be integrated meaningfully with the

consideration of risk: "I/we as a team see that patient H. is showing more symptoms of his mental disorder. The current ward climate is also affecting him negatively. Taken together we should be mindful he might become aggressive in the near future in certain situations". Furthermore, forensic vigilance involves taking action to curb the increasing risk in order to ultimately prevent the incident. Thus, while forensic vigilance cannot (entirely) prevent known factors that contribute to aggression from occurring, especially concerning patient or ward variables, it can play a role in recognizing these factors occurring and taking action to prevent these from resulting in an incident. A similar mechanism may be relevant in incidents other than violence or aggression. For example, a study by Wilkie et al. (2014) showed that in 32% of the absconsions a change in mental status could be observed, and in 31% an ideation to abscond was expressed in the month prior to the absconding. Furthermore, in the majority of the absconsions (54%) the absconding person did not comply with privileges and in 22% they engaged in violent action in the previous month. These findings align with findings presented in this thesis, specifically those in **Chpt. 2, 5 and 6**, that observing the surroundings is important, and that interpreting which observations are a signal of escalation (in this case absconsion) is important. In these cases forensic vigilance could perhaps have played a role. Professionals perhaps could or should have observed these signals, meaningfully integrated them into a conclusion that there is a heightened risk for absconsions. This conclusion could have been communicated about in the team, and perhaps taking appropriate action could have prevented the absconsion from occurring. A similar process could be utilized with self-harm and attempts at suicide, and in non-professional contacts between a professional and a patient. These types of incidents are often associated with specific warning signals and risk factors (Adshead, 2012; Winters et al., 2017), a finding which was also confirmed in this thesis. Taken together, these findings indicate the importance of forensic vigilance in the prevention of incidents.

Finally, how the term forensic vigilance was and is used in incident reports of notable incidents that occurred in the Netherlands also highlights the role of forensic vigilance in the occurrence of incidents. Though no definition was given, many instances where the term was used indicate that forensic vigilance relates to the prevention of incidents. For example, in the pivotal case of Michael P. the conclusion of all research reports and the statement of the Minister of Justice at the time pointed to a lack of forensic vigilance as a main cause for the occurrence of the incident (Dekker, 2019; *Inspectie Justitie en Veiligheid en Inspectie Gezondheidszorg en Jeugd*, 2019; *Onderzoeksraad voor de Veiligheid,* 2019). This also holds true for reports of other severe incidents (*Inspectie Justitie en Veiligheid*, 2018; 2020).

Clinical implications

Though forensic vigilance has been assumed to be important in the prevention of incidents for a long time, this thesis provides a scientific foundation for this concept. As concluded previously, this should signal institutions to maximize efforts towards increasing forensic vigilance, and training professionals as much as possible. Institutions could furthermore regularly assess forensic vigilance among their employees to monitor which aspects need

further attention. Since forensic vigilance appears to be important in the occurrence of incidents, perhaps (a lack of) forensic vigilance should always be investigated as a possible cause when an incident does occur, for example as standard practice in incident investigations. This would have to take place retrospectively, possibly with (an adaptation of) the FVE. This would allow the identification of not only whether forensic vigilance (or a lack thereof) had played a role in a certain incident, but also allow institutions to describe in specific terms which aspects specifically. Consequently, measures for improvement can be targeted to those aspects which were found to be lacking. Since forensic vigilance is now a (more) defined construct, it also allows for the dissection of other factors that play a role in the occurrence of incidents, next to forensic vigilance. The definition of forensic vigilance and the identification of aspects thereof also allow for the possibility for institutions to monitor forensic vigilance over time, and map whether specific aspects are particularly relevant in incidents with specific groups of patients (or not).

Strengths and limitations

Studies presented in this thesis have a number of strengths. The main strength is the number of participants included. **Chpt. 2** included a total of 700 Dutch forensic mental healthcare professionals, **Chpt. 3** included a total of 367 forensic and 94 non-forensic mental healthcare professionals, and **Chpt. 4** included 284 Dutch forensic mental healthcare professionals. In **Chpt. 5** eight (out of twelve) forensic hospitals in the Netherlands participated in the study, contributing a total of 69 included incident reports. These numbers support the generalizability of the findings presented here but also highlight the relevance of the topic of forensic vigilance and general desire among forensic mental healthcare professionals and forensic hospitals for more scientifically based information about what forensic vigilance is and what factors play a role in this construct.

Another strength is that the chosen methods heavily relied on clinical practice, as is important with a construct that has much relevance for clinical practice. **Chpt. 2** utilizes the principles of prototypicality analysis, which also formed the basis of the questionnaire presented in **Chpt. 3**. The method chosen in study one was aimed to capture the construct as it is seen by professionals, and is thus based on the clinical relevance and application of the construct. Furthermore, **Chpt. 5** utilizes reports of incidents that occurred in forensic hospitals in the Netherlands to analyze the role of forensic vigilance, and **Chpt. 6** used the views expressed by patients. Both studies are data-driven and studies in which the results flow from the data naturally. The use of these methods increase the clinical applicability of the findings presented in this thesis.

Finally, the use of mixed methods throughout the thesis and within individual studies (for example the use of both incident reports and expert meetings to corroborate the findings from the reports in **Chpt. 5**), and the inclusion of professionals and patients, as well as standardized incident reports, increases the reliability of the conclusions presented in this thesis and the construct as we described it.

However, this thesis also suffers from a number of limitations. The most important limitation is that with the chosen methods no causal relationship between forensic vigilance and the occurrence of incidents can be inferred. This would have required the monitoring of both forensic vigilance and incidents over time. As mentioned previously, the studies presented in this thesis represented the first studies on forensic vigilance. The methods in this thesis were chosen to study forensic vigilance and its relation to incidents to begin with. These findings could then be used to base further research upon. Repeated monitoring of forensic vigilance and the occurrence of incidents over time (which could for example be done in a longitudinal, multicenter study) could be a next step in this research.

Chpt. 5 only included cases in which an incident occurred. Ideally, we would have also included cases where an incident did not occur or was only just prevented. To choose suitable comparison timelines was not possible for two reasons. First, due to the anonymous delivery of the incident reports it was not possible to select a period of, for example, daily reports about the same patients as those involved in the incident, which would be required to match the incident timeline to a hypothetical non-incident timeline. Furthermore, selecting an appropriate data period to match the period before an incident that did take place would be arbitrary. After all, it is not possible to determine whether an incident has actually been prevented. Matching with a randomly chosen time-period may not be representative since the patient may have been more stable in terms of mental illness, life events or may have been cared for by other staff members compared to the time-period before the incident that did take place.

Finally, during the development of a new instrument one would ideally investigate convergent and discriminant validity next to the reliability measures presented in **Chpt. 3**. However, since forensic vigilance is a new construct, no measures that could be used to measure convergent validity are available or would be an arbitrary choice. The same holds true for discriminant validity.

Avenues and suggestions for future research

Until recently, the construct of forensic vigilance was undefined and ambiguous. This thesis represents the first steps into research on forensic vigilance. The research presented here is by no means exhaustive on this topic and allows for plenty of new avenues in research on forensic vigilance.

In line with the limitations of the studies mentioned above, one of the future endeavors could include one where both forensic vigilance and incidents are monitored repeatedly over time, ideally in a multicenter study to improve generalizability of findings. Such a study could provide insight into whether increases in forensic vigilance are followed by decreases in the number of incidents, or whether decreases in forensic vigilance lead to more incidents. Such a study could furthermore allow for insights into how forensic vigilance contributes to the prevention of incidents, to expand on the results from **Chpt. 5**.

Another important future endeavor could include the development of a training in forensic vigilance, preferably based on scientific studies and 'best practices'. Some of the findings presented in this thesis could form the basis of such a training program, enriched with examples from clinical practice and supplemented with experience from those with many years of work experience. Such a training program could include certain knowledge components, such as which mental disorders forensic psychiatric patients present with, how these look in daily practice, what the relation is with offending, self-harming or rule-breaking behavior etc., and emphasis on knowledge of individual patients (e.g., their mental disorder, criminal and treatment history, and early recognition signals). A training program could furthermore include components centered around observation, communication skills and exercises in assertiveness and training to overcome barriers to action. Since personality traits were found relevant in forensic vigilance, a training program could include a personality assessment and an explanation how certain personality traits contribute to forensic vigilance (or not). Next, future research could include an effectiveness study. For example, forensic vigilance could be measured before and after a training program is delivered, as well as measures of (perceived) safety and the number of incidents that occur on a certain ward or in a certain forensic psychiatric hospital before and after the staff have been given the training. Should such a training program be proven effective efforts should be made to include this training program as standard practice, and include this in educational programs for forensic mental healthcare professionals.

Further research could also include efforts to gain more knowledge about aspects relevant in forensic vigilance. For example, while much focus is placed on observation skills, the role of attention in forensic vigilance has not been investigated to date. Another important aspect included in forensic vigilance is communication, although it is unclear whether certain communication styles are beneficial for forensic vigilance or whether the reverse is true. Future work could also include studies into different areas of forensic mental healthcare. For example, future studies could investigate differences in forensic vigilance between inpatient and outpatient services, or whether the construct of forensic vigilance as described here also applies in juvenile forensic mental healthcare.

Finally, the results presented in the present thesis could instigate the development of a standardized scoring method of the presence of (aspects of) forensic vigilance at the time of incidents. This could become part of the standard incident research method when an incident occurs in a forensic psychiatric hospital.

Conclusion

On the basis of our results, the construct of forensic vigilance that we defined in this thesis can be considered a core competency of forensic mental healthcare professionals. Furthermore, professionals need forensic vigilance in order to prevent incidents and maintain safety in forensic mental healthcare settings. Institutions should maximize their efforts to increase forensic vigilance in the professionals they employ.


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CHAPTER 8

Summary in Dutch

Nederlandse samenvatting

In grote delen van de wereld worden degenen die een misdaad hebben begaan en daarvoor (gedeeltelijk) minder verantwoordelijk kunnen worden gehouden door een psychische stoornis als een aparte groep beschouwd en behandeld in forensisch psychiatrische instellingen (Arboleda-Florez, 2006; McIntosh et al., 2021; Papalia et al., 2019). Instellingen voor forensische geestelijke gezondheidszorg (ggz) zijn doorgaans succesvoller in het terugdringen van recidive dan penitentiaire inrichtingen die geen behandeling bieden (Fazel et al., 2016; McIntosh et al., 2021; Wartna et al., 2006). De forensische ggz is een complexe en unieke werkomgeving met geheel eigen uitdagingen. In penitentiaire inrichtingen zijn professionals overwegend beveiliger, maar in de forensische ggz is de professional naast een bewaker van de veiligheid ook zorgverlener. Door deze duale rol ontstaan ook veel ethische dilemma's (O'Dowd et al., 2022; Keulen-de Vos & de Vogel, 2022; Marshall & Adams, 2018). In vergelijking met de reguliere (niet-forensische) ggz vormt de focus op risico op agressief of grensoverschrijdend gedrag en hoe dit te verminderen, het belangrijkste verschil. In de reguliere ggz zijn de belangrijkste doelen het verminderen van symptomen van een psychische stoornis en het vergroten van de zelfredzaamheid van de patiënt, diens ervaren welbevinden en kwaliteit van leven. De behandeling of interventie wordt vaak vormgegeven rondom de eigen hulpvragen van de patiënt (Van Os et al., 2019). Daarentegen is het verminderen van het recidiverisico het belangrijkste doel van een forensische behandeling. Hieraan ten grondslag liggen de Risk-Needs-Responsivity principes (Andrews & Bonta, 2017). Volgens deze principes moet de meeste zorg worden gegeven aan degenen die het hoogste risico vormen (risico-principe), moet de behandeling gericht zijn op het verminderen van criminogene behoeften of dynamische risicofactoren (behoeften-principe) en moet de behandeling worden aangepast aan de leerstijl van de patiënt (responsiviteits-principe). Het unieke karakter van de forensische ggz vereist wellicht een unieke set vaardigheden van professionals.

In Nederland wordt sinds ongeveer een decennium de term '*forensische scherpte*' gebruikt om een specialistische vaardigheid aan te duiden die nodig is voor professionals die werkzaam zijn in de forensische ggz. De term wordt in Nederland veel gebruikt, bijvoorbeeld om aan te geven hoe men moet werken in de forensische ggz. Zo wordt de term '*forensische scherpte*' vaak opgenomen in functiebeschrijvingen en opleidingsprogramma's voor professionals. Ook wordt de term vaak gebruikt in officiële incidentenonderzoeken of rapporten over de stand van zaken in de Nederlandse forensische ggz (zie bijvoorbeeld Andersson Elffers Felix [AEF], 2018; Inspectie Justitie en Veiligheid, 2018; Onderzoeksraad voor Veiligheid, 2019).

Het is niet duidelijk wanneer de term voor het eerst is gebruikt, maar de term nam een vlucht na enkele ernstige en veel door media verslagen incidenten met forensisch psychiatrische patiënten, in het bijzonder de casus Michael P. In september 2017 raakte een jonge vrouw genaamd Anne Faber vermist tijdens het fietsen op de Utrechtse heuvelrug, waar de media uitgebreid aandacht aan besteedden. De verontwaardiging van het publiek en de mediastorm namen verder toe toen bekend werd dat haar lichaam was gevonden en

dat zij op gewelddadige wijze was verkracht en vermoord door een patiënt (Michael P.) van een nabijgelegen forensische psychiatrische kliniek terwijl hij met onbegeleid verlof was. Het incident met Anne Faber is onderzocht door de Onderzoeksraad voor de Veiligheid (2019) en de Inspecties Justitie en Veiligheid en Gezondheidszorg en Jeugd. In beide rapporten werd geconcludeerd dat er onvoldoende sprake was geweest van '*forensisch scherpte*'.

Sinds de jaren 2010, maar vooral sinds de zaak Michael P., is het gebruik van de term 'forensische scherpte' in Nederland wijdverbreid, onder meer in vacatureteksten, interviews met zorgprofessionals (bijvoorbeeld Weeda, 2019), officiële rapporten van Inspectiediensten (Inspectie Justitie en Veiligheid, 2018; 2019; 2020) en andere (semi-)overheidsinstanties (Onderzoeksraad voor de Veiligheid, 2019) en vooral in de dagelijkse praktijk onder professionals. Ondanks het wijdverbreide gebruik was de term niet eenduidig gedefinieerd. Er zijn bijna net zoveel beschrijvingen van wat 'forensische scherpte' inhoudt als dat de term wordt gebruikt, en deze beschrijvingen vertonen onderlinge verschillen. Het onderzoeksbureau Andersson Elffers Felix (AEF) omschrijft forensische scherpte bijvoorbeeld als "het waarnemen van risico's in het gedrag van patiënten, waarop een snelle, adequate interventie volgt" (AEF, 2018, p.11). De Inspectie Justitie en Veiligheid omschrijft forensische scherpte in één van haar onderzoeken als "een bewustzijn bij professionals dat zij werken met personen met een criminele achtergrond, die bekend en herkend moeten worden om het risico op recidive in te schatten" (Inspectie Justitie en Veiligheid, 2018, p. 6). Verder geven verschillende auteurs op het professionele discussieplatform Discura verschillende omschrijvingen van forensische scherpte. Hoewel alle omschrijvingen overeenkomsten vertonen, zijn ze niet gelijk en bevatten ze soms verschillende elementen. Eerdere pogingen om een definitie op te stellen, bijvoorbeeld door Folkert Helmus op zijn LinkedIn-pagina (n.d.) en Tom Deenen en Rob Ziel in hun presentatie voor het Festival Forensische Zorg (2012), zijn niet gebaseerd op empirisch onderzoek, en worden ook niet algemeen aanvaard of gebruikt.

Het ontbreken van een definitie is problematisch om meerdere redenen. Ten eerste vormt het gebrek aan eenduidigheid een barrière in de communicatie. Zoals ook blijkt uit de verscheidenheid aan omschrijvingen van forensische scherpte die verschillende auteurs geven, leidt ambiguïteit ertoe dat partijen niet over hetzelfde construct praten. Bovendien belemmert het ontbreken van een definitie verder onderzoek en de ontwikkeling van een theorie rondom een construct. Voordat een construct betrouwbaar kan worden gemeten, moet onderzoek worden gedaan naar de definitie van het construct en de theorieën eromheen. De eerste studie in dit proefschrift (**Hfst. 2**) had als doel om te komen tot een definitie van '*forensische scherpte*' en te onderzoeken welke aspecten onderdeel uitmaken van dit construct en welke niet. Dertig stellingen over mogelijke aspecten van forensische scherpte werden geformuleerd in consensus tussen de auteurs op basis van hun professionele kennis en gesprekken met andere forensische professionals. Deze stellingen werden voorgelegd aan 700 Nederlandse forensisch psychiatrische professionals. In een online enquête moesten zij aangeven hoezeer zij elk van de dertig

stellingen onderschreven door middel van een Visual Analog Scale (VAS) van 100 mm, variërend van 'helemaal mee oneens" bij 0 mm tot "helemaal mee eens" bij 100 mm. De meest onderschreven uitspraken waren "Forensische scherpte is in staat zijn om zelfs subtiele signalen van mogelijke escalatie of gevaar te herkennen" en "Forensische scherpte is assertief durven zijn". Vijftien uitspraken werden onderschreven met een gemiddelde van 70 mm of meer. De Cronbach's α van deze 15 items was goed (α = .844; α_{range} .828 - .845). De professionals vonden forensische scherpte zeer belangrijk in hun dagelijks werk (μ = 89.01 mm). Op basis van de meest onderschreven stellingen kon forensische scherpte worden gedefinieerd als:

> *Forensische scherpte is bewustzijn van de patiënt, van zijn of haar stoornis en de forensische setting. Het is het kunnen herkennen van zelfs subtiele signalen van mogelijke escalatie, het eigen onderbuikgevoel, de capaciteit om hierover met collega's te communiceren, de bereidheid om te handelen wanneer nodig, en de realisatie dat dit in zichzelf ook een effect op de patiënt kan hebben.*

Vervolgens was de focus van de tweede studie het ontwikkelen van een meetinstrument voor forensische scherpte. De 15 items die het beste scoorden in de eerste studie werden omgezet in zelfrapportage items. In **Hfdst. 3** onderzochten we enkele psychometrische eigenschappen van dit instrument. De Forensic Vigilance Estimate (FVE) werd voorgelegd aan 367 Nederlandse forensisch psychiatrische professionals en 94 niet-forensisch psychiatrische professionals door middel van een online enquête. Van de forensische professionals hebben 154 personen meegedaan aan de herhaalde meting. De resultaten tonen aan dat de FVE goede psychometrische eigenschappen heeft, wat tot uitdrukking komt in een goede tot uitstekende interne consistentie (Cronbach's α van .903), een goede split-half betrouwbaarheid (.884), en een goede test-hertest betrouwbaarheid (.809). De factorstructuur van de FVE wordt het best weergegeven door een één-factormodel. Forensische professionals scoorden significant hoger op de FVE dan niet-forensische professionals. Deze resultaten suggereren dat de FVE betrouwbaar genoeg is om te worden gebruikt voor onderzoeksdoeleinden.

Hoewel de term forensische scherpte voor het eerst werd geïntroduceerd in verband met (ernstige) incidenten, ontstond de hypothese dat het construct ook verband houdt met individuele verschillen tussen professionals en met hoe capabel professionals zich voelen in hun werk. In sommige incidentenrapporten werd bijvoorbeeld een verband tussen forensische scherpte en werkervaring waargenomen (bijvoorbeeld Inspectie Justitie en Veiligheid, 2020). Verder is uit eerder onderzoek onder forensische versus niet-forensische verpleegkundigen gebleken dat standvastigheid, grenzen stellen en een niet-oordelende houding belangrijker waren voor forensische verpleegkundigen dan voor niet-forensische verpleegkundigen (Bowen & Mason, 2012). Omgekeerd kan ook verondersteld worden, gezien de complexe aard van de forensische ggz, dat andere persoonlijkheidskenmerken, zoals neuroticisme, een negatieve samenhang kunnen

vertonen met forensische scherpte. Tot slot, aangezien de forensische ggz complex is, en de patiënten complexe problematiek vertonen en agressief kunnen worden of geweld kunnen gebruiken (zie bijvoorbeeld Nijman et al., 2005), kan dit werk stressvol zijn (zie ook AEF, 2018). Echter, wellicht kan forensische scherpte samenhangen met het ervaren stressniveau. Wellicht ervaren professionals met veel forensische scherpte minder stress, , omdat degenen die meer forensische scherp zijn zich mogelijk competenter voelen, wat samenhangt met lagere stressniveaus (Paoline & Lambert, 2012) en mogelijk minder snel te maken krijgen met agressie door het eerder en succesvoller ingrijpen in potentieel gevaarlijke situaties. Omgekeerd kunnen stress of burn-out symptomen de capaciteit voor forensische scherpte mogelijk verminderen omdat stress het vermogen om zich te concentreren, te observeren en verwerkingsvermogen kan verminderen. In **Hfdst 4** is onderzocht welke professionele en individuele factoren samenhangen met forensische scherpte en of forensische scherpte samenhangt met werkstress en burn-out symptomen. Hiervoor is gebruik gemaakt van een online enquête onder 283 Nederlandse forensische ggz professionals. Hieruit bleek dat werkervaring in de forensische ggz, maar niet de algemene ggz, forensische scherpte voorspelt. Daarnaast bleek dat drie van de vijf persoonlijkheidsdimensies forensische scherpte voorspellen, waarbij Neuroticisme een negatieve relatie met forensische scherpte vertoont, en Openheid voor ervaring en Conscientieusheid een positief voorspellend effect hebben. Samen met werkervaring in de forensische ggz waren drie persoonlijkheidstrekken voorspellend voor forensische scherpte. Openheid voor ervaring en Conscientieusheid zijn trekken die een positieve relatie vertonen met forensische scherpte, terwijl Neuroticisme negatief samenhangt met forensische scherpte. Forensische scherpte was niet voorspellend voor werk gerelateerde stress, burn-out symptomen en werktevredenheid, noch waren deze voorspellend voor forensische scherpte. Daarop was één uitzondering: persoonlijke voldoening was positief gerelateerd aan forensische scherpte.

In forensische ggz instellingen komen met enige regelmaat ernstige incidenten voor. Deze incidenten kunnen bijvoorbeeld bestaan uit agressie en geweld, zowel tussen patiënten onderling als tegenover personeel, brandstichting, (poging tot) ontsnapping, ontvluchting of ongeoorloofde afwezigheid of (poging tot) zelfdoding (Büsselmann et al., 2020; Gannon et al., 2012; Huitema et al., 2018; Martin et al., 2018; Nicholls et al., 2009; Voulgaris et al., 2018). Incidenten kunnen de voortgang van de behandeling vertragen, kunnen schade toebrengen aan het therapeutisch klimaat en de maatschappelijke acceptatie van forensische ggz en kunnen stress bij medewerkers verhogen (Van den Bossche e.a., 2012; Bowers e.a., 2011; Fluttert e.a., 2010; Verstegen et al., 2020). Gebaseerd op de in deze thesis gepresenteerde definitie van forensische scherpte en de belangrijke aspecten (**Hfdst. 1**) en het dagelijks gebruik van de term (zie bijvoorbeeld AEF, 2018; Ministerie van Justitie en Veiligheid, 2020) zou forensische scherpte een belangrijke rol spelen bij het voorkomen van incidenten, agressie, gevaarlijke of onrechtmatige situaties; het is echter onduidelijk hoe. In **Hfdst. 5** werd gebruik gemaakt van onderzoeksrapporten

van ernstige incidenten in forensische klinieken om te onderzoeken hoe (een gebrek aan) forensische scherpte zou kunnen bijdragen aan het ontstaan van incidenten. Deze rapporten werden middels thematische analyse en interpretatieve fenomenologische analyse (IPA) geanalyseerd om de rol van forensische scherpte bij het ontstaan van incidenten te onderzoeken en in kaart te brengen. Acht forensisch psychiatrische klinieken in Nederland hebben 69 geanonimiseerde onderzoeksrapporten van ernstige incidenten bijgedragen. Uit de analyse kwamen vijf belangrijke thema's naar voren. Dit waren vier kernvaardigheden die professionals nodig hebben, namelijk observatie, integratie, communicatie en actie, waarbij ook een aantal randvoorwaarden nodig zijn om deze goed uit te voeren (bijvoorbeeld kennis). Het vijfde thema geeft aan dat de professional de kernvaardigheden op zinvolle wijze moet verbinden ("connecting the dots"). Dit is een sterk cyclisch proces waarin de vier kernvaardigheden stappen zijn. De forensische context is bepalend voor de manier waarop de onderdelen worden verbonden en gewogen en welke risico's moeten worden overwogen. In **Hfdst. 5** wordt een model van dit proces en de noodzakelijke voorwaarden voor professionals gepresenteerd.

Het construct van forensische scherpte is gedefinieerd op basis van onderzoek onder professionals (**Hfdst. 2**). Ervaringen en opvattingen van patiënten zijn echter onmisbaar bij het beschrijven van de klinische toepassing van dit construct. **Hfdst. 6** omvat een studie gebaseerd op focusgroepgesprekken met 26 forensisch psychiatrische patiënten. Het doel was vast te stellen welke kwaliteiten, vaardigheden, eigenschappen, kenmerken en communicatiestijl zij belangrijk vinden voor professionals in de forensische gezondheidszorg om een veilige omgeving voor patiënten en personeel te creëren en te handhaven. Uit de thematische analyse kwamen 14 subthema's naar voren, verdeeld over vier overkoepelende domeinen: persoonlijke eigenschappen van professionals, communicatie, signaleren en handelen en interpersoonlijke relaties. De uitkomsten van deze studie vertoonden overeenkomsten met de eerdere hoofdstukken (**Hfdst. 2**, **4** & **5**) in dit proefschrift en leverden waardevolle informatie op voor wat betreft de praktische invulling van belangrijke thema's en wat professionals concreet kunnen doen op meer forensisch scherp te zijn.

Tenslotte worden de bevindingen van de vijf hoofdstukken in de algemene discussie tegen het licht gehouden. Uit deze thesis als geheel kunnen twee belangrijke bevindingen worden gedestilleerd, namelijk:

1. Forensische scherpte is een kernvaardigheid van forensische ggz professionals
2. Forensische scherpte is belangrijk bij het bewaken van de veiligheid in forensische ggz instellingen.

Deze thesis vormt een eerste stap in het onderzoek naar forensische scherpte. Deze thesis en de hier gepresenteerde resultaten geven instellingen wellicht een eerste wetenschappelijke basis waarmee zij aan de slag kunnen met forensische scherpte onder

hun medewerkers, bijvoorbeeld in supervisie, intervisie en middels trainingen. Verder onderzoek zou gericht kunnen zijn op het onderzoeken van andere factoren die mogelijk een rol spelen bij forensische scherpte, zoals aandacht of communicatievaardigheden. In de toekomst zou een training in forensische scherpte ontwikkeld kunnen worden, onder andere gebaseerd op het in deze thesis gepresenteerde wetenschappelijk onderzoek en 'best practices'.


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CHAPTER 9

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CHAPTER 10

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Robert, jou wil ik hartelijk bedanken voor je kennis, ontzettend nuttige kritiek en je vele complimenten. Jouw altijd kritische blik en de momenten waarop je op de rem trapte of juist voor aanmoediging zorgde hebben dit proefschrift werkelijk naar een hoger niveau getild. Jij hebt me, naast Marije en Henk, echt vertrouwen gegeven in mijn eigen kunnen. Jouw reacties die sneller waren dan het licht hebben me menigmaal over barrières geholpen zodat ik weer verder kon. Ik bedank jou zeker ook voor het feit dat je na het wegvallen van Henk dit traject zo naadloos met mij (en uiteraard Marije) hebt voortgezet. Volgens mij vond jij mijn eeuwige ongeduld en mijn wil om snel de volgende stap te zetten best een lastige eigenschap, maar ik ben blij dat we het desondanks toch samen tot goed einde hebben weten te brengen! Tenslotte dank ik je voor je humoristische intermezzos. Ik voel me vereerd dat ik dit samen met jou heb mogen doen, en hoop dat we nog regelmatig zullen samenwerken in de toekomst.

Dan, Henk, jou ben ik, ondanks dat we jou al een tijd moeten missen ook zeker dank verschuldigd. Ik ben dankbaar dat ik gebruik heb mogen maken van je kennis en jouw enthousiasme heb mogen ervaren. Jouw oog voor detail en ethiek hebben dit onderzoek een enorm goede start gegeven. Ook heb ik onze informele gesprekken zeer gewaardeerd. Ik kan me nog levendig een telefoongesprek herinneren helemaal aan het begin waarbij ik jou tegen een miauwende kat hoorde zeggen "even je mond houden poes, ik ben in gesprek"; wat voor mij een teken was dat ik het prima met jou zou kunnen vinden, wat ook bleek te kloppen. Ik denk dat ik behalve voor mijzelf, ook voor Robert en Marije mag spreken als ik zeg: we hebben je gemist en we missen je. Het blijft gek om jouw naam niet op het titelblad te zien en straks niet jouw gezicht in de promotiecommissie te zullen zien.

Natuurlijk bedank ik alle leden van de manuscript- en promotiecommissie voor hun tijd, zorgvuldige aandacht bij het beoordelen van dit proefschrift en voor de (hopelijk) interessante en uitdagende vragen tijdens de verdediging.

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Petra, ik moet jou bedanken voor de ontzettend fijne samenwerking in diverse projecten, en jouw aanstekelijke tomeloze enthousiasme voor dit bijzondere werkveld. Onze samenwerking voor de forensische leerlijn waardeer ik enorm. Ook ben ik je ontzettend dankbaar voor je rol in de dataverzameling: zonder jouw enthousiasmering van anderen om aan mijn onderzoek mee te doen had ik nooit zoveel proefpersonen kunnen werven. Daarnaast ben ik jou ook héél dankbaar voor het attenderen van allerlei professionals en geïnteresseerden op het feit dat ik onderzoek doe naar forensische scherpte. Zonder jou had dit onderzoek nooit het bereik gehad dat het nu wel heeft. Vivienne, hoewel wij op het gebied van forensische scherpte (nog) nooit hebben samengewerkt, beschouw ik je wel als een naaste collega en heb ik over de jaren heen ontzettend veel van je mogen leren.

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Nienke Verstegen met jou heb ik, doordat onze onderwerpen elkaar raken, doordat we steeds min of meer in dezelfde fase zaten met ons proefschrift, én allebei een promotor en voormalige promotor delen toch een bijzondere collegialiteit opgebouwd! Ik waardeer ons laagdrempelige contact en kijk uit naar onze samenwerking in de toekomst.

Ook de huidige en voormalige directieleden van de Rooyse Wissel ben ik enorm dankbaar dat ik dit promotieonderzoek heb mogen doen, en voor het vertrouwen dat jullie in mij tentoonstellen. Rose, ik kan me nog levendig herinneren dat jij tijdens mijn sollicitatiegesprek al na een kwartier gewoon in het gesprek gooide (waar ik ook bij zat) "ik zie geen contra-indicaties", waarop ik dacht "hè, heb ik nu gewoon een baan?!". Je wordt gemist! Hyacinthe wat ben ik blij dat jij dit onderzoek zo enthousiast omarmde en het nut ook uitdraagt naar landelijke samenwerkingsverbanden. Michiel, chef, jij ook zeker bedankt voor je hulp bij het aanschrijven van andere instellingen en jouw gift om verbindingen te leggen binnen verschillende projecten in de organisatie. Ik hoop dat de kennis uit het onderzoek een bijdrage kan leveren aan de toekomst van de Rooyse Wissel.

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Joyce, wat leuk dat je je krachten met mij wilde bundelen in het ontwikkelen van een training. Ik weet zeker dat we samen een mooi product kunnen neerzetten waar

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Dit onderzoek staat op de schouders van professionals werkzaam in de forensische zorg die aan één of meer studies hebben meegewerkt. Ik ben jullie allemaal ontzettend dankbaar en mijn bewondering voor het werk dat jullie dagelijks doen is enorm groot! Ik moet ook alle klinieken die SIRE en PRISMA rapporten hebben bijgedragen hartelijk bedanken voor de mogelijkheid om van deze, toch gevoelige, data gebruik te mogen maken. Ook dank aan de medewerkers die dit mogelijk hebben gemaakt en hebben geanonimiseerd. Natuurlijk ook enorm veel dankbaarheid voor alle forensische psychiatrische patiënten die hebben meegedaan aan mijn onderzoek en mij een klein kijkje hebben gegund in hun belevingswereld. Jullie visie op dit onderwerp is onmisbaar in het totale plaatje. Ik wens jullie allemaal stuk voor stuk het beste leven dat jullie, misschien met hulp, kunnen bereiken. Ik hoop dat de samenleving, stukje bij beetje, minder snel hun oordeel klaar zal hebben.

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Dionysis, my dearest delicious husband: a lot of who I am today is due to you. You are my home base and are always supportive of your career-driven wife. Thank you for always providing support, always having a dad joke to share, helping me with all kinds of IT issues and reminding me that, no matter how much I value my work, at the end of the day it is just a job. Together we have built a house and a family, and I love you with all my heart. Finally: my incredibly wonderful little Oliver. You are such a source of happiness and such a good distraction from PhD related problems – or all work for that matter. I am grateful every day that we are so blessed with you and seeing you develop into this wonderful cheeky little boy is a gift I will value no matter what. You have my love, now and always.


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CHAPTER 11

Curriculum Vitae

Maartje Clercx was born on August 22, 1987, in Arnhem (the Netherlands). She graduated from pre-university education (VWO) at "Bisschoppelijk College Schöndeln" (Roermond, the Netherlands) in 2005. After studying veterinary science in Ghent (Belgium) for two years, she realized this was not her calling. In 2008 she started studying Psychology at Maastricht University, where she obtained her bachelor's degree (BSc) in 2010 (cum laude/with distinction). She went on to obtain her master degree (MSc) in Forensic Psychology, also at Maastricht University, in 2013 (cum laude/with distinction). She conducted her research internship with the Forensic Children's and Adolescents' Mental Health Services in Glasgow. During her bachelors and masters degree she worked as a student research assistant and student tutor. In 2015 Maartje started working at Maastricht University as a junior researcher/database coordinator, from 2016 on she also worked as a docent. In January 2018 she joined Forensic Psychiatric Centre (FPC) 'de Rooyse Wissel' as a junior researcher, where she started her research on forensic vigilance in 2019. In November 2020 her PhD proposal was approved by the Medical Ethical Committee of the Faculty of Social Sciences of Radboud University (Nijmegen, the Netherlands; ECSW-2020-137). This PhD project was funded by FPC de Rooyse Wissel. From September 2020 until August 2021 Maartje served as the secretary of the student board of the International Association of Forensic Mental Health Services (IAFMHS). Maartje received the Derek Eaves Student Research Grant (2021-2022 round II) for her research into patients' views on traits and skills needed by professionals to be forensically vigilant and to maintain safety (Chpt. 6 of this thesis).

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APPENDIX

Research data and privacy management statement

Research Data Management and Privacy

This research was conducted in compliance with the General Data Protection Regulation (GDPR) and all applicable laws and ethical guidelines. The Ethical Committee of the faculty of Social Sciences (ECSS) has given a positive advice to conduct these studies to the Dean of the Faculty, who formally approved the conduct of these studies (ECSW-2020-137). This research was funded by Forensic Psychiatric Centre (FPC) de Rooyse Wissel, and partially (Chpt. 6) by the Derek Eaves Student Research Grant (2021-2022 round II).

The privacy of participants has been warranted in the following ways: In Chpt. 2, 3 and 4 data was collected anonymously. These studies were conducted by means of online surveys. Participants surfing to the study link were first presented with a digital informed consent (detailing purpose of the study, expected duration, ethical permission details, the type of questions that would be posed and contact information of the principal researchers). Participants had to indicate that they had read and understood the information provided by clicking a box. They were also required to indicate that they were at least 18 years of age at the time of participation, also by clicking a box. Participants could not proceed to the main survey unless both boxes were checked and were otherwise rerouted to a thank-you message.

Next, participants were presented with background questions, such as questions about their age, and professional background. These included inquiries into the type of institution where they worked, where they worked previously, years of work experience in general and forensic mental healthcare and their professional role. These did not include questions by which participants could be identified (such as name, contact information, name of their institution etc.). Participants were then presented with the questionnaires included in the studies in digital format.

As an incentive for participation participants could enter a lottery upon completion of the survey where participants could win gift certificates for an online department store. The lottery URL was different than the URL of the survey so that personal details collected in the lottery (to draw and contact winners) could not be connected to study data, which were anonymous. Participants were re-routed to the lottery URL when they completed the entire survey. Lottery winners were drawn two months after data collection was completed and lottery data have been permanently deleted after prizes were sent to the winners (or their alternate if the winner did not reply to repeated attempts to make contact).

In Chpt. 5, data consisted of standardized reports of severe incidents that had taken place in forensic hospitals between 01-01-2010 and 31-21-2020. The medical director and/or managing director provided written consent for participation of the hospital in the study. Reports were anonymized with respect to patient details, details of the employees involved, ward and hospital details. Information regarding the criminal background and diagnostic description of patients, professional role of employee and type of hospital/ward were retained but formulated without any traceable information. Examples of this are “patient X, age 57, born in [place in the Netherlands] suffers from schizophrenia” or “social worker

A arrives at ward 1, a high-secure ward with 24-hours supervision, shortly after 15h00". Since some incidents were covered in the Dutch media, specific dates were also removed or replaced with examples such as [2 days before day of incident] or [one month before day of incident]. Finally, to strive for objectivity, findings, conclusions and recommended measures for improvement were also removed from the incident reports. Due to the amount of time anonymization could cost a participating hospital, the hospitals were given a choice to either conduct anonymization themselves or by one of the researchers. Two hospitals opted to have the anonymization done by one of the researchers. In both cases anonymization was done at the hospital and checked by a hospital staff member before the anonymous incident reports were transferred to the research team. Only anonymized reports were transferred to the research team, no non-anonymous reports were retained. Hospitals were each given a number ID. Coding key which hospital is represented by which numbered ID is stored in a different folder that the anonymized incident reports.

In Chpt. 6 we conducted focus groups with patients currently admitted to a forensic psychiatric hospital. Participants all received an information letter about the study, and had to sign a written informed consent prior to the start of the session. Both contained information about the goal, research method, duration of the interview, the fact that the conversation would be recorded (audio only; see below), the fact that the verbatim transcription would be anonymous, and which file information would be collected for demographic information. The information letter and informed consent also specified who was the principal investigator and who would be conducting the group interview (first author), how data would be stored and who would have access to the data (all authors and a research assistant). The letter and informed consent also stated that the content of the group interview meetings would be considered confidential with respect to what individual patients had said, that information disclosed in the meeting would only be discussed and published anonymously. Patients were given the option to use a pseudonym when the audio recording was ongoing (no patients chose to use this option). There was one exception to this, which was also described in the information letter: if a patient would disclose information that could cause harm to persons or goods this information would be shared non-anonymously with the treatment team (this did not occur during the study). The information letter and informed consent were written in accessible language (as much as possible) to take into account different cognitive abilities and reading and language levels.

All focus group meetings were audio recorded and verbatim transcribed (by the first author) shortly after the meetings, after which the original audio files were deleted. Verbatim transcripts were anonymous; names of participating patients were replaced with a number, and names of fellow patients or staff members participating patents mentioned were replaced with an initial. Signed informed consent forms are stored in a locked cabinet in a locked office (keys held by researchers employed at de Rooyse Wissel), and cannot be meaningfully connected to anonymized study data.

All study data are stored on a secure network drive (at high-secure forensic psychiatric hospital FPC 'de Rooyse Wissel') and are only accessible to researchers employed at de Rooyse Wissel. The lottery files for chapters 2, 3, and 4 were destroyed within two months after data processing was completed and lottery winners had been sent their prizes. The study data from Chpt. 2, 3, 4 and 5 are stored anonymously. The original audio files from Chpt. 6 have been deleted irreversibly, the verbatim transcripts are anonymous.

Radboud University and the Behavioural Science Institute (BSI) have set strict conditions for the management of research data. Research Data Management was conducted according to the FAIR principles. All research data resulting from this dissertation were handled in accordance with the university's research data management policy (https://www.ru.nl/rdm/) and the BSI's research data management protocol (https://www.radboudnet.nl/bsi/rdm). Data files underlying results presented in Chpt. 2, 3, 4 and 6 can be requested from the author of this thesis. Due to the sensitive nature of the data, and the strict agreement with participating clinics, data underlying Chpt. 5 will not be made available.

Maartje Clercx

ROOYSE WISSEL

Jij. Wij. De maatschappij.

Radboud University