Personal networks in the forensic psychiatric context

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PERSONAL NETWORKS IN THE FORENSIC PSYCHIATRIC CONTEXT

EXPLORING A PERSON-CENTERED SOCIAL NETWORK APPROACH TO SUPPORT FORENSIC PSYCHIATRIC TREATMENT DECISIONS

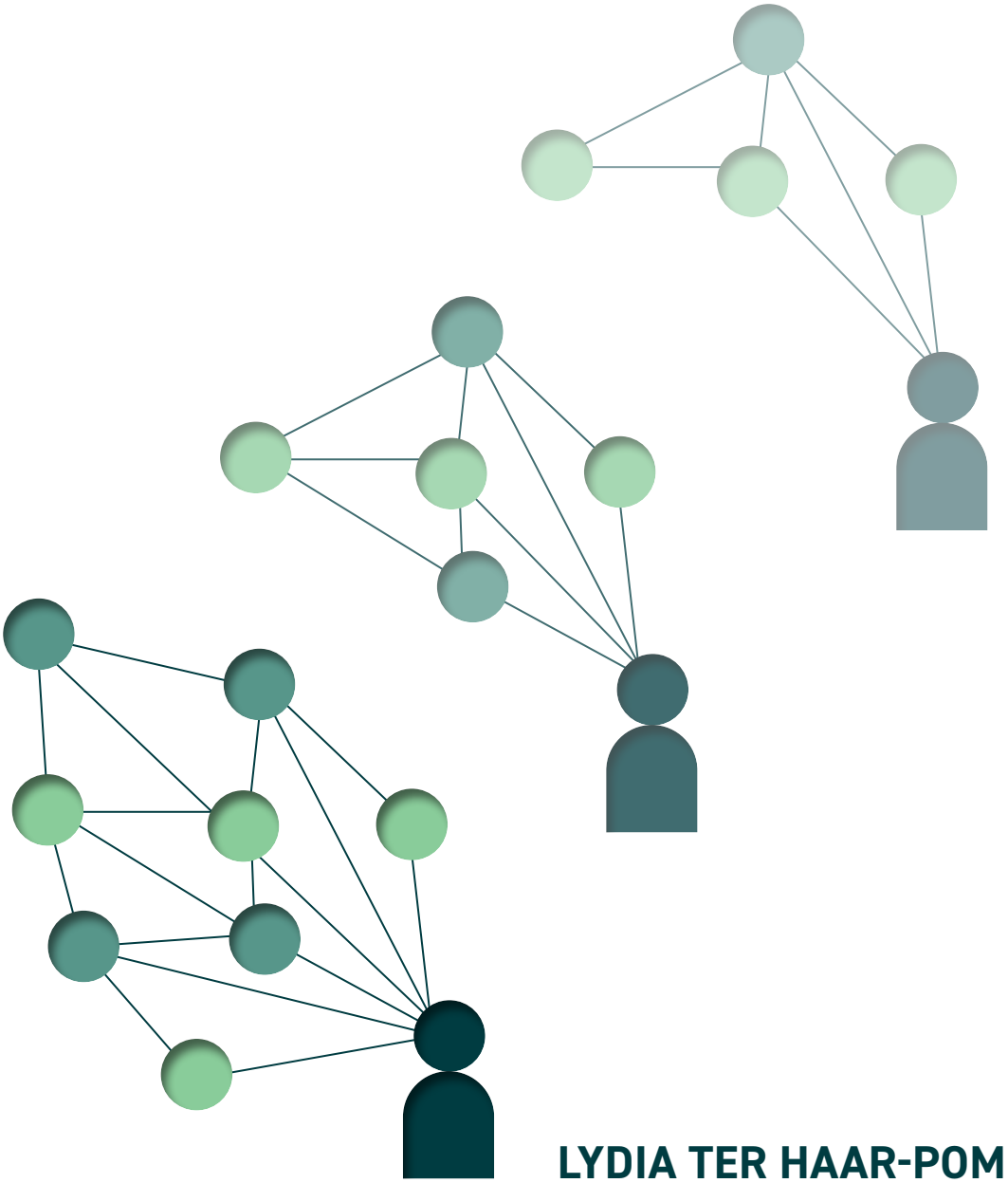

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Table of contents

CHAPTER 1

Introduction

It is well-known that the quality and quantity of our social relationships influence our physical and mental health and wellbeing (Cohen, Gottlieb, & Underwood, 2000; Veiel & Baumann, 1992). Most theories assume that the foundation for social development is built during early childhood. Children who have grown up in a safe and supportive social environment, face fewer physical and mental problems and are less involved in the criminal justice system during adulthood. At the same time, a lack of stable and close social relationships during one's childhood can increase the risk of developing a wide range of physical and mental health problems later in life (Caspi, Harrington, Moffitt, Milne, & Poulton, 2006; Danese, Moffitt, & Harrington, 2009; Katz, Conway, Hammen, Brennan, & Najman, 2011; Lacey, Kumari, & Bartley, 2014).

Adolescence is a period of transition between childhood and adulthood, a time when individuals start spending more time with their peers and less time with their families (Felson & Gottfredson, 1984; Newman, Lohman, & Newman, 2007). Although friendships provide adolescents with a broad (new) social support system outside the family context (Brown, 2004), peer groups can also encourage risk behaviors, such as problematic drinking, substance (ab)use, violent, and offending behavior (Warr, 2002; Gardner & Steinberg, 2005). When it comes to offending, the majority of these adolescents will become prosocial once they enter adulthood. There is a smaller group that is persistent in offending after adolescence. Finally, there is a marginal group that starts offending from the moment they become adults (Benson, 2002; Hirschi & Gottfredson, 1983; Laub & Sampson, 2003; Massoglia & Uggen, 2010; Warr, 2002).

A segment of the adult offenders is detained and treated in forensic psychiatric treatment centers. In such cases, it was established that the offending behavior was influenced by serious mental health problems and therefore treatment is considered essential to reduce the risk of reoffending. It is well-known that to reduce this risk of reoffending meaningful bonds with others – such as marriage, family, work, and community institutions - and the availability of sufficient protective social support are important (Bonta & Andrews, 2007; Laub & Sampson, 2003; Resnick, Ireland, & Borowsky, 2004; Sampson, Laub, & Wimer, 2006; Warr, 2002). For instance, a social support system can positively influence patient's treatment motivation and his compliance with rules and treatment outcomes (Skeem, Encandela, & Eno Louden, 2003; Skeem, Eno Louden, Manchak, Vidal, & Haddad, 2009).

In forensic clinical practice, it is important to assess the dynamic development of social network factors. These insights provide extra input to define treatment goals and strategies (e.g., network interventions) (see for example: Bogaerts, Vervaeke, & Goethals, 2004; Borowsky, Hogan, & Ireland, 1997; Kunst, Bogaerts, & Winkel, 2009; Odonne-Paolucci, Violato, & Schofield, 2000; Sampson & Laub, 1990; Vance, Bowen, Fernandez, & Thomp-

son, 2002; Van der Horst, 2011; Wright & Wright, 1992). A problem in forensic diagnostic clinical practice is the limited available information about the role social network factors may play in individuals' specific (risk) behaviors (Bogaerts et al., 2007; Monahan, 1981; Spreen & Pomp, 2009). Due to the lack of empirical studies on personal social networks of the forensic psychiatric population, it is unclear what kind of relationships will maintain, dissolve, or emerge during forensic psychiatric treatment. It is likely that patients face major challenges to build a sufficient protective social support system. For instance, it is known that persons with mental health problems have difficulties in maintaining stable and prosocial contacts. They are confronted with fewer intimate relationships and lower levels social support (Estroff, Zimmer, Lachicotte, & Benoit, 1994) and are less satisfied with their personal relationships (Nettelbladt, Svensson, Serin, & Ojehagen, 1995). Another challenge is that some patients were or are still part of high risk networks. These networks may be detrimental to the success of forensic psychiatric treatment. For example, antisocial/criminal network members are more likely to be bad role models and they may give the patient access to criminal goods, such as weapons and drugs (Akers, 1998; Andrews & Bonta, 1994; Haynie, 2002; Hilterman, 1999, 2001; McCarthy & Hagan, 1995).

This dissertation explores the possibilities of a personal-centered social network approach to support forensic psychiatric treatment decisions. Personal social network approaches contribute to the understanding of how people (inter)act within a specific context and their own social environment (McCarty, Lubbers, Vacca, & Molina, 2019; Wasserman & Faust, 1994). The added value of personal network approaches has already been shown in many other disciplines, like in regular mental health care (e.g., substance use treatment (Tracey et al., 2016)) and in school classes (e.g., bullying behavior (Huitsing, Snijders, Van Duijn, & Veenstra, 2014)). Remarkably, personal network approaches with a specific focus on the forensic psychiatric population are lacking (Bogaerts et al., 2007; Spreen & Pomp, 2009). For instance, the available social network tools in the forensic psychiatric context, such as eco-map designs (Hartman, 1995) and the Maastrichtse Social Network Analysis (MSNA) (Baars, 1997), do not specifically focus on the risk contexts of forensic psychiatric patients.

Chapter 1 starts with the research aim and research question. Afterwards, there is a description of the forensic psychiatric judicial system in the Netherlands: the so-called TBS-system. Thirdly, the role of social network factors in current risk assessment and -management approaches is discussed. Finally, we focus on the concepts of personal networks and personal network approaches. The first chapter finishes with an outline of the dissertation.

1.1 Aim and Research question

The main objective of this dissertation is to provide a better understanding of the connection between the personal networks of forensic psychiatric patients and their individual specific patterns of (risk) behavior. By understanding this connection, a more responsive treatment and personalized risk assessment and -management will be possible.

The lack of empirical and scientific knowledge on how personal social network factors may assess and manage risk at an individual level led to the following necessary broad explorative question:

To which extent and in what respect can a personal network approach contribute to a more comprehensive understanding of the risk behavior by forensic psychiatric patients?

In this dissertation, a personal network (also known as ego-centered network) is defined as *"the subnetwork of closer and personal relationships (Van der Poel, 1993) consisting of people with whom the individual has durable and meaningful ties (Hammer, Makiesky-Arrow, & Gutwirth, 1978) that fulfill his daily life needs"* (Baars, 1994; Speck & Attneave, 1973). *Risk behavior* is understood as all types of behavior that can lead to an (new/repeated) offense. *Risk factors* are defined as "any characteristic of a person, his or her environment or situation, which may increase the risk of future violent behavior". *Protective factors* are defined as "any characteristic of a person, his or her environment or situation, which may reduce the risk of future violent behavior" (de Vogel et al., 2007, p.23).
To address our research question, first, theoretical insights from the risk assessment and -management literature are combined with the field of sociology, with a specific focus on personal network perspectives (this chapter). Second, to collect data from the personal networks the so called Forensic Social Network Analysis (FSNA) data collection instrument has been applied (Pomp, Hendriks, Kremer, & Spreen, 2007; Spreen, Pomp, & Vermeulen, 2006). In the forensic psychiatric context, this instrument may help forensic psychiatric professionals to systematically collect data about relevant relationships and actors (e.g., network members) of their patients (see Chapter 2). This instrument has been applied in a series of studies in which personal networks of forensic psychiatric patients are explored to gain insights into the extent and the way personal networks can contribute to the understanding of the patient's individual specific risk behavior (Chapters 3-5).

1.2 The TBS-system

In the Netherlands, mentally disturbed violent offenders can be sentenced to a so-called TBS order. The aim of TBS is to protect society against mentally disturbed offenders and to provide effective treatments to prevent future recidivism (Van Marle, 2002). This TBS order (art 37 a, b of The Netherlands Criminal Code) is meant for offenders who suffer from a personality disorder and/or a severe mental illness. The court assesses, based on the diagnoses of forensic behavioral experts, whether a psychiatric disorder or limited mental development has influenced the offense behavior of the person. The court will impose a TBS order if a person has been declared partially or fully unaccountable for his actions because of his psychiatric disorder or limited mental development. The stronger the connection between the disorder and offense - the greater the influence of the disorder on the offense - the lower the responsibility (Van Marle, 2002). A TBS order can only be imposed for sentences of four years or longer and an assessed high risk of recidivism without treatment (Van Marle, 2002). The aim of a TBS- treatment is reintegration in a responsible way which implies a recidivism reduction during and after treatment. Patients who show sufficient progress during treatment are gradually granted more freedom. Leaves occur in various degrees of supervision and security, namely: (1) supervised leave, (2) unsupervised leave, (3) transmural leave (the patient is living outside the clinic but still under supervision and responsibility of the Forensic Psychiatric Center (FPC)), and finally (4) probationary leave may be granted. In case of probationary leave, patients can return to society under certain conditions. For patients that are evaluated to remain a too high risk for society, the TBS order will be prolonged as long as necessary (Ministry of Justice and Safety; in Dutch: Ministerie van Justitie en Veiligheid, 2018).

1.3 Risk assessment and -management in forensic psychiatric centers - the role of social network factors[1]

In order to identify the key elements of how personal networks may contribute to a more detailed understanding of the patient's risk behaviors, it is important to first systematically collate risk assessment and -management literature about what is known about social risk factors in relation to offending and recidivism. First, we describe major theoretical models in the risk assessment and -management literature (subparagraph 1.3.1). Second, we describe the current status of the most applied risk assessment (subparagraph 1.3.2) and risk management tools in forensic psychiatric treatment programs

1 This paragraph is a slightly revised version of the first two paragraphs of the following paper: Ter Haar-Pomp, L., Bogaerts, S., & Spreen, M. (2016). Risk management in the forensic psychiatry: Integrating a social network approach. In M. Cima (Ed.), *The Handbook of Forensic Psychopathology and Treatment* (pp. 337-351). New York: Routledge.

(subparagraph 1.3.3). Third and finally, we focus especially on the established social network factors in current risk assessment and -management tools (subparagraph 1.3.4).

1.3.1 Major theoretical models in risk assessment and -management literature

Risk assessment and -management in forensic psychiatry are driven by various theoretical models. The most influential theoretical model in current forensic psychiatry is the Risk-Need-Responsivity (RNR) model, first formalized in 1990 (Andrews, Bonta, & Hoge, 1990). This model is based on the rehabilitation theory (Andrews, Bonta, & Hoge, 1990; Andrews & Bonta, 1994; Bonta & Andrews, 2010). Rehabilitation theory refers to "the overall aims, values, principles, and etiological assumptions that are used to guide the treatment of offenders, and translates how these principles should be used to guide therapists" (Ward, Melser, & Yates, 2007, p. 211).

The RNR model includes the 'What Works Principles' (Bonta & Andrews, 2007). These principles are widely adopted in forensics psychiatric settings and provide guidance for diagnostics, risk assessment and management, and rehabilitation. The RNR model consisted originally of three principles (risk, need and responsivity), but since 1990, the model has expanded. The five main principles are explained below:

1. The **risk principle** states that the intensity and level of forensic psychiatry treatment should be tailored to the patient's individual level of risk. Patients with a high risk on recidivism will benefit most from intensive treatment, while patients with a low risk of recidivism will benefit more from less intensive and shorter treatment.
2. The **need principle** argues that treatment should concentrate on those dynamic criminogenic factors that most significantly influence risk of reoffending. In addition to criminogenic factors, attention must also be paid to non-criminogenic factors, such as self-esteem (Bonta & Andrews, 2010). According to the need principle, each individual has his own typical combination of factors that can lead to the criminal offenses.
3. The **responsivity principle** focusses on risk and need factors. Interventions must be delivered in a way that is appropriate to the individual characteristics of the offenders. It is important to employ empirically supported social learning and cognitive behavioral treatment, because these treatments have been evaluated as most effective in reducing risk behavior in offenders.
4. The **program integrity principle** states that the program should be conducted in practice as intended by its theory and design. This can be accomplished by providing staff with training, guiding professionals during supervision and ethical guidelines.
5. The **professional discretion principle** requires that staff members have the necessary skills and access to supervisory support to make appropriate decisions. Investing in professional discretion has a significant impact on crime reduction.

In their RNR model, Bonta and Andrews (2007) defined eight central risk factors, known as the 'Central Eight'. Based on the strength of associations with criminal behavior they grouped those eight risk factors into the "Big Four" (i.e., Criminal history, Antisocial personality pattern, Pro-criminal attitudes, and Antisocial associates) and the "Moderate Four" (i.e., Substance abuse, Family/marital relationships, School/work, and Prosocial recreational activities). The central eight factors are most predictive of general and violent recidivism (Bonta, Blais, & Wilson, 2014). Most central eight factors directly or indirectly refer to the personal network of forensic psychiatric patients. For example, the risk factor 'Antisocial associates' is directly linked to the personal network of a forensic psychiatric patient. To assess this factor, information about the individual social context is needed, such as: "Are co-offenders (still) part of the individual's personal network?" and "Is the individual spending time with network members with procriminal attitudes?". But also, information about protective influences must be weighed: "Are there network members that display a prosocial attitude/lifestyle?". Other factors of the central eight are more indirectly linked to the personal network. For example, the risk factor 'Substance abuse' is focused on the abuse of the individual who is assessed, but to thoroughly understand future risks, it is important to establish whether the assessed individual has easy access to alcohol and/or drugs through his network members. For example, friends who use alcohol (Ali & Dwyer, 2010; Branstetter, Low, & Furman, 2011) or drugs (Farrell & White, 1998; Guxens, Nebot, Ariza, & Ochoa, 2007; Kandel, 1985) are known to influence own drinking and drug use.

Bonta and Andrews (2007) formulated (social) targets for interventions to reduce or eliminate the effects of the central eight risk factors on recidivism outcomes, see Table 1.1.

In sum, the RNR model provides useful information regarding offender treatment and effective (social) interventions (Bonta & Andrews, 2010). It has been established that treatment and relapse preventions programs adhering to the RNR principles are more effective in reducing recidivism compared to other programs (Andrews, Bonta, & Hoge, 1990; Dowden, Antonowicz, & Andrews, 2003; Hanson, Bourgon, Helmus, & Hodgson, 2009; Olver, Wong, & Nicholaichuk, 2009). For instance, Dowden et al. (2003) found in a meta-analysis, that relapse prevention programs had the greatest impact for those situations in which the RNR principles were strictly followed. Hanson et al. (2009) focused on the effectiveness of treatment of sexual offenders. They found in their meta-analysis that programs that adhered to the RNR principles showed the largest reduction in sexual and general recidivism (Hanson et al., 2009).

Despite the promising results of the effect of the RNR principles on reducing recidivism, the RNR model is also subject to criticism. One point of criticism on the RNR model is the

Table 1.1 Central eight risk factors, indicators, and intervention goals

Central Eight risk factors	Indicators	Intervention goals
Criminal history	Antisocial and criminal behavior, involvement in a number and variety of anti-social and criminal acts	
Antisocial personality pattern	Impulsive, adventurous pleasure, restlessly aggressive and irritable	Build self-management skills, teach anger management
Pro-criminal attitudes	Rationalizations for crime, negative attitude towards the law	Counter rationalizations with prosocial attitudes; build up a prosocial identity
Antisocial associates	Criminal friends, isolation from prosocial others	Replace procriminal friends and associates with prosocial friends and associates
Substance abuse	Abuse of alcohol and/or drugs	Reduce substance abuse, enhance alternatives to substance use
Family/marital relationships	Inappropriate parental monitoring and disciplining, poor family relationships	Teaching parenting skills, enhance warmth and caring
School/work	Poor performance, low level of satisfactions	Enhance work/study skills, nurture interpersonal relationships within the context of work and school
Prosocial recreational activities	Lack of involvement in prosocial recreational/leisure activities	Encourage participation in prosocial recreational activities, teach prosocial hobbies and sports

Note. Retrieved from Bonta and Andrews (2007).

one-dimensional focus on criminogenic needs that ignores the role of non-criminogenic needs mentioned earlier in this dissertation, such as self-esteem. It is also argued that too much focus on risk-taking behavior may negatively influence the patient's motivation to adhere to the prescribed treatment (Gannon et al., 2011; Marques et al., 2005; Ward & Stewart, 2003). Motivation is essential for tailoring treatment and influences recidivism outcomes (Hanson & Bussiere, 1998). Ward and Steward (2003) argued that a focus on human goals may contribute to the patients' willingness to engage in treatment. To achieve a better balance between strengths and risks, so-called 'restorative' approaches have been developed. Restorative models focus not only on deficits like risks and needs, but also on promoting specific goods or goals in offender rehabilitation (Ward & Maruna, 2007). An example of a more restorative focused model is the 'good lives' model (GLM), which focuses on promoting human goods to provide the offender the essential ingredients for a 'good' life (Kernshall, 2012; Ward & Maruna,

2007). According to the GLM, treatment should not only focus on risk reduction, but a treatment plan "should take into account offenders' strengths, primary goods, relevant environments, and specify exactly what competencies and resources are required to achieve these goods" (Ward, Mann, & Gannon, 2007, p.91). This focus helps the patient develop and maintain a crime-free life (Yates & Ward, 2008). Several studies have shown that treatment based on GLM components resulted in improved treatment alignment and a higher intrinsic motivation for behavioral change (Bouman, 2009; Mann, Webster, Schofield, & Marshall, 2004; Marshall, Cripps, Andersons, & Cortine, 1999). However, the GLM has been criticized as well. For instance, it has been suggested that the focus on needs may obscure attention to risks (McNeill, 2009).

The insights of the RNR-model and GLM are important when deciding how to use personal networks in forensic psychiatric treatments:

- Information about the 'central eight factors' (i.e., risk principle) must be taken into account *(RNR-model)*;
- Those dynamic (social) criminogenic factors that most significantly influence the patient's individual risk of reoffending need to be identified. It is important to understand that each individual has his own unique combination of these (social) risk factors (i.e., the need principle) *(RNR-model)*;
- Forensic personal network professionals need to be trained in network theory. In addition, professional guidelines are needed to conduct personal network research (i.e., program integrity). The professionals should have the necessary skills and the access to supervisory support to make appropriate decisions (i.e., professional discretion) *(RNR-model)*;
- Personal network interventions are most effective when (a) they match the level of risk of recidivism by the individual (i.e., the risk principle) and (b) interventions target specific risk factors (criminogenic needs) *(RNR-model)*;
- A personal network approach should not only focus on deficits like risk and needs, but also on promoting specific (social) goods or (social) goals in the patient's current and future life. The forensic professionals, the patient and his (informal) significant others, should consider together what social goals and related social resources are required for the patient to achieve a crime-free life *(GLM)*.

1.3.2 Risk assessment in forensic psychiatric centers

Risk assessment is a key component in every forensic psychiatric treatment in which the level of risk of recidivism is assessed to distinct high risk from low risk patients (Bogaerts, Spreen, ter Horst, & Gerlsma, 2018). Applying risk assessment tools are nowadays common practice in forensic psychiatry. These tools intend to systematically bring together information about static and dynamic predictors of risk and needs in order to develop a treatment plan (treatment goals) and assign an appropriate level of

supervision (Andrews et al., 2006; Bonta, 2002). Static risk factors (e.g., age at first offense and prior criminal history) are useful to assess the basic risk but are unchangeable and therefore not useful to evaluate behavioral change. Static factors may provide an indication of an abnormal personal development and may identify long-term tendencies towards criminal behavior. Dynamic risk factors (e.g., coping style, self-control, and social support) can be influenced by treatment and are therefore changeable over time and useful to adjust and evaluate treatment goals. The most useful risk factors are those amenable to deliberate interventions (Andrews & Bonta, 1994). Risk assessment has different purposes in a patient's trajectory. First, it is important to estimate future risks and to identify significant risk factors. Second, risk assessment can be used to define treatment goals. Third, risk assessments are important to evaluate changes in risk levels during forensic psychiatric treatment and to make decisions whether treatment should be adjusted, continued or stopped (Bogaerts et al., 2018). In literature, a distinction is made between unstructured clinical, actuarial and structured clinical risk assessment. In an unstructured clinical risk assessment, the clinician gives his assessment of the patient's risk of recidivism based on his own clinical expertise and interpretation and defines those factors that are related to future recidivism. Actuarial or algorithmic risk assessment concerns the estimation of risk behavior based on factors that have been established in scientific research because of their direct association with criminal behavior (Hart, Michie, & Cooke, 2007). Usually, a summation is made based on a linear sum of the containing predictors resulting in a certain risk level category. Structured clinical assessment can be described as the use of empirical established risk factors as indicators, as items on a checklist. There is no summation of the value of the individual factors or indicators, but the clinician considers the values of the various factors and assigns greater weight to some factors than to others, based on the individual case. The list of risk factors can be viewed as a checklist of all risk indicators that must be considered in an individual risk assessment.

The most frequently used instruments in the clinical practice are structured risk assessment instruments. There are worldwide more than 200 structured risk assessment tools available in forensic psychiatry and criminal justice (Douglas, Pugh, Singh, Savulescu, & Fazel, 2017). Research has shown that structured risk assessment instruments show poor to reasonably predictive validity at group level (Canton, Veer, van der Panhuis, van Vanheul, & van den Brink, 2004; De Vogel, De Ruiter, Hildebrand, Bos, & Van de Ven, 2004; De Vogel 2005; De Vries Robbe et al., 2011; Hildebrand, Hesper, Spreen, & Nijman, 2005; Singh et al., 2014).

In Dutch FPC's, structured risk assessment instruments are required by the Dutch government since 2004. In the current situation, mandatory structured risk assessment instruments are the Historical Clinical Risk Management (HCR-20^{V3}) (De Vogel, De Vries

Robbe, Bouman, Chakhssi, & de Ruiter, 2013; Douglas, Hart, Webster, & Belfrage, 2013), Historical Clinical Future-Revised (HKT-R) (Spreen, Brand, Ter Horst, & Bogaerts, 2014), and for sex offenders the Sexual Violence Risk- 20 (SVR-20) (SVR-20; Boer, Hart, Kropp, & Webster 1997; Hildebrand, De Ruiter, & Van Beek, 2001) or the Static, Stable, Acute (SSA) (Harris, Phenix, Hanson, & Thornton, 2003; Dutch version: Smid, Koch, & Van den Berg, 2014). In the HCR-20^{V3}, the HKT-R, the SVR-20, and the SSA, the outcomes of the final risk judgment are either low, low-moderate, moderate, moderate-high or high risk.

Structured risk assessment tools are also used in forensic ambulant care settings. An example of a Dutch ambulant risk assessment and evaluation tool is the Forensic Outpatient Risk Evaluation (FORE) (In Dutch: Forensisch Ambulante Risico Evaluatie (FARE)) (Van Horn et al., 2016). The FORE consists of six static and 11 dynamic items and is used to assess the risk of recidivism for risk behavior (general recidivism) and to monitor treatment progress (Van Horn et al., 2016).

Recent years, attention to protective factors increased (De Vogel, De Ruiter, & Bouman, De Vries-Robbe 2007; De Vries-Robbe, 2014; De Vries-Robbe, Mann, Maruna, & Thornton, 2014; Fitzpatrick, 1997; De Vries-Robbe, De Vogel, Koster, & Bogaerts, 2015; Nagtegaal & Schonberger, 2013). Protective factors are hypothesized to reduce the negative impact of risk factors, such as 'strong social support' or a 'strong bond with a positive authority figure'. A protective factor can be defined as "any characteristic of a person, his or her environment or situation which reduces the risk of future violent behavior" (De Vogel, de Ruiter, Bouman, & de Vries Robbe, 2007, p.23). An example of a risk assessment instrument containing solely protective factors is the Structured Assessment of Protective Factors for violence risk (SAPROF; De Vogel et al., 2007; English version, 2009; De Vries-Robbe, 2014).

1.3.3 Risk management in forensic psychiatric centers

An important task of FPC's is to reduce and control the assessed risks (ideally dynamic risk factors are eliminated through effective treatment). Risk management is therefore an essential component in a forensic psychiatric treatment. Various definitions of 'risk management' are available in forensic psychiatric literature. For instance, Douglas et al. (2014) stated that risk management includes "the full breadth and range of risk reduction strategies at the disposal of agencies or persons responsible for the supervision of an individual" (p.104). De Vogel (2005) defines violence risk management as "all intervention strategies aimed at reducing violence risk developed on the basis of the results of violence risk assessment" (p.45) and the Workgroup 'the Ideal Forensic Psychiatric Department'[2] (2013) defines risk management as "a structured measurement of security- and recidivism risks and targeting of these risks by individualized counselling-

2 in Dutch: de ideale forensische psychiatrische afdeling (IFPA)

and treatment with the aim to reduce the risks" (p.2). The definitions above represent a consensus view on risk management (e.g., monitoring risk behavior by applying risk assessment strategies/interventions to reduce the assessed risks). Based on these definitions, we consider it prudent to define forensic psychiatric risk management in this dissertation as: *the process of controlling a forensic psychiatric patient's risk on criminal and violent behavior using a combination of on-going monitoring and evaluations of risk behaviors and situations throughout the patient's treatment and rehabilitation (Ter Haar-Pomp, Bogaerts, & Spreen, 2016)*.

Risk management has received little attention in forensic psychiatric studies. De Kogel and Nagtegaal (2008) studied the effectiveness and mechanism of supervision programs for offenders and forensic psychiatric patients. They found some academic support that programs are most effective when they consist of control elements (e.g., monitoring an individual's behavior, movements and other elements of supervision) *and* rehabilitation elements (e.g., treatment, care, skill training, and practical support). Additionally, the researchers noted that there are still very few impact studies on empirical results of supervision programs (De Kogel & Nagtegaal, 2008). De Kogel and Nagtegaal (2006) gave a brief overview of the most frequently used risk management tools in Dutch forensic psychiatry. First, the most used tool is the (individual) risk management plan. This plan defines which measures are needed to decrease risks (EFP, 2013). Based on a systematic evaluation of the patient's treatment and rehabilitation, the plan is adjusted. Second, the *Early Recognition (ERM) Method* is frequently used (ERM: In Dutch: signaleringsplan; Fluttert, Van Meijel, Webster, Nijman, Bartels, & Grijpdonck, 2008). This method aims to explore and describe signs of deteriorating behavior in situations associated with the patient's aggressive behavior. The assessed early warning signs are listed and described in the ERM-plan (Fluttert, Eidhammer, & Dale, 2021). Patients score their early warnings signs on a weekly basis. This provides input to evaluations between the patient and a trained and professional supervisor. This method has been primarily developed for the intramural treatment phase (Fluttert et al., 2008). The third example of a frequently used tool is the relapse prevention plan (in Dutch: terugvalpreventieplan). This plan consists of interventions focused on controlling patient's dynamic risk factors. The aim of the interventions is to improve the patient's self-regulation and whenever necessary, to motivate the patient to accept external interventions (EFP, 2013).

Most risk management tools involve social risk factors, such as family members, peer groups and their role in supporting or discouraging violent behavior (Monahan, 1981; McCarthy & Hagan, 1995; Warr, 2002). Network members of a forensic psychiatric patient can be important to maintain or enhance positive behavioral change, but can also have a negative effect on the patient (Andrews et al., 1990; Ward & Steward, 2003). Especially, during the rehabilitation phase, which is characterized by a less structured and less

controlled context, network members can play a crucial role in supporting the patient to remain crime free (Lindqvist & Skipworth, 2000). The most commonly worldwide-used social network management intervention is the so-called Circles of Support and Accountability (COSA) program for sex offenders, which has been developed in Canada (Wilson, Picheca, & Prinzo, 2005). A key feature of COSA is the involvement of the local community in offering a protected and protecting area for the sex offender to control his problem behavior (Höing et al., 2011). COSA addresses key factors for reoffending like social isolation and emotional loneliness (Höing et al., 2011). Two statements express the core of COSA: "no more victims" and "no one is disposable" (Höing, Bogaerts, & Vogelvang, 2013). COSA consists of three to seven trained volunteers who meet a high risk sex offender on a frequently basis in order to support his integration into the community. For instance, these volunteers display pro-social values and behaviors in their interactions with the sex offender. Also, they offering moral, emotional, and practical support. The volunteers (inner circle) are supported by professionals (outer circle). The professionals can take appropriate measures based on the reported concerns of the volunteers to prevent the sex offender from reoffending (Höing et al., 2011). Studies have shown that COSA reduces sexual, violent, and general recidivism, whereby the reduction of sexual re-offense rates is the largest (Aos, Miller, & Drake, 2006; Wilson, Cortoni, & McWhinnie, 2009; Wilson, Picheca, & Prinzo, 2005, 2007). Since 2008, COSA has been introduced by the Dutch Probations Organization (Reclassering Nederland, RN). In the Dutch situation, COSA is intended for sex offenders with a moderate to high risk of reoffending, a high need for social support, and on conditional release with a court supervision order of at least 12 months (Höing et al., 2013).

1.3.4 Social network factors in risk assessment and -management tools

The current used risk assessment and -management tools in Dutch forensic psychiatry for adult populations are all based on the 'what works' principles (discussed in subparagraph 1.3.1). Table 1.2 displays the specific items per tool that are directly related to the social environment or social functioning of the patient.

The social network factors from the various tools - displayed in Table 1.2 - largely overlap. Network factors with a protective influence are (1) prosocial network members, (2) intimate relationship, (3) having social skills, and (4) social support. Risk factors are (1) risky network members, (2) problems with ((non-)intimate) relationships, and (3) lack of social support.

Note that the presented social network factors in this paragraph are based on population research but not necessarily representative in each individual case. For instance, some people with severe relational problems act aggressively; others do not. In addition, the presented list of factors is not exhaustive: each individual case may have its own set of

Table 1.2 Social network factors in current used risk assessment and -management tools (in brackets number of item in tool)

Risk assessment model/tool	Social network factors
Historical Clinical Risk-management-20[V3] (De Vogel, De Vries Robbe, Bouman, Chakhssi, & de Ruiter, 2013; Douglas, Hart, Webster, & Belfrage, 2013)	• Historical factor (3): history of problems with a. Intimate relationships b. Non-intimate relationships • Risk factor (3): future problems with personal support
Historical Clinical Future Revised (In Dutch: HKT-R) (Spreen, Brand, Ter Horst, & Bogaerts, 2014)	• Historical risk factor (05): network influence (prosocial network versus criminal/antisocial network) • Clinical risk factor (07): social skills • Clinical risk factor (14): influence of protective and/or risky network members • Future risk factor (06): social network
Structured Assessment of Protective Factors for violence risk (SAPROF) (De Vogel et al., 2007; English version, 2009; De Vries-Robbe, 2014)	• External factor (13): social network and (14) intimate relationship
Sexual Violence Risk-20 (SVR-20)[a] (SVR-20; Boer, Hart, Kropp, & Webster 1997; Hildebrand, De Ruiter, & Van Beek, 2001)	• Domain psychological adjustment: risk factor (7) relationships problems.
Short-term Assessment of Risk and Treatability (START) (Webster, Martin, Brink, Nicholls, & Middleton, 2004)	• Risk factor (1): social skills • Risk factor (2): relationships • Risk factor (11): social support
The Forensic Outpatient Risk Evaluation (FORE) (In Dutch: Forensisch Ambulante Risico Evaluatie (FARE)) (Van Horn et al., 2016)[b]	• Dynamic risk factor (3): delinquent social network • Dynamic risk factor (5): problematic (ex-)partner relationship

[a] The SVR-20 is used for the risk assessment of sexual offenders.

[b] The FORE is developed as a risk assessment and evaluation tool for forensic psychiatric outpatients.

factors/considerations. For instance, a patient may use his apparently 'protective' social skills to get access to a high risk context (e.g., grooming processes, strategic position in a criminal network). In the next paragraph, we will elaborate the implication of the individual case in more detail by using a personal network perspective.

1.4 A forensic psychiatric personal network perspective

From a social network perspective, we explore in this paragraph (Wasserman & Faust, 1994), how and to what extent personal networks may influence a patient's risk or pro-social behavior, and vice versa, and how a patient's behavior may influence his personal network (for the definition of a personal network see page 13).

From a personal network perspective, a patient (ego) can to a certain degree decide about the persons he will include in his network and how connections between these persons are structured. However, ego cannot control everything. Each personal network is characterized by a continuously interplay between the possibilities and constraints of social ties, which exerts an influence on the behaviors of ego and his personal network members. For instance, ego is constrained in its opportunities to change ties in his personal network (e.g., social ties within a high dense family or peer subnetwork) (Kadushin, 2012; Wasserman & Faust, 1994).

One must also keep in mind that a patient and his personal network members are driven by certain needs and goals. Patients (un)consciously shape their social world in accordance with their needs and goals (Lindenberg, 1991, 1996; Lindenberg & Frey, 1993; Ormel, Lindenberg, Steverink, & Verbrugge, 1999). It is well-known that individuals differ in their underlying criminal propensity and in their chance of getting into trouble in specific criminogenic situations (Andrews & Bonta, 1994; Bem & Funder, 1978; Delisi, 2005; Monahan, 1981; Sampson & Laub, 2005).

In the scientific discipline 'Social Network Analysis', the effects of personal networks on a person's behavior can be expressed by the network characteristics size, composition and structure (Kadushin, 2012; McCarty et al., 2019; Wasserman & Faust, 1994). The *network size* is the total number of individuals belonging to the personal network. The *composition* of a personal network is defined by its characteristics (e.g., network role[3], gender, age, occupation, education, and marital status) of the focal person and his network members (Wasserman & Faust, 1994). The way these network members have relationships with each other is called the *structure* of the network (Wasserman & Faust, 1994). The interactions between these three network characteristics can be used to get insight into personal networks. For instance, two personal networks of the same size with identical network compositions can have different effects on the person when their structures differ (McCarty et al., 2019). An example in the forensic psychiatric context: a central position of a network member in the personal network (network structure) combined with his role as social supporter (network composition), can be beneficial for the patient, as this person can easily talk to the patient and other network members

3 For example: family members, friends, neighbors, and colleagues.

about important issues. However, an antisocial network member in the same central position can be risky for the patient, because this network member can easily negatively influence the patient and other personal network members with his antisocial lifestyle and related procriminal attitudes. These hypothetical situations illustrate that even though structures are identical, differences in compositions, can cause big differences how beneficial a network member can be.

To have a better understanding of the interaction in personal networks between network size, composition, and structure in a forensic psychiatric context, four well-established theoretical social concepts will be discussed. These concepts are: social influence, social capital, social support, and social control.

Social influence. An important consequence of being (well) connected is that people who influence each other become more alike because they have similar network characteristics (Christakis & Fowler, 2007; Haynie, 2001; Kadushin, 2012; Milardo, 1986; Skeem et al., 2009). Two theoretical notions make it more likely that people make connection with others. The first concept is 'proximity': if people are at the same location (are geographically close), they meet and make connections (Allan, 1979; Feld & Carter, 1998). The second concept is 'homophily': people with similar characteristics (same background and values) tend to connect with each other (McPherson, Smith-Lovin, & Cook, 2001). A well-known criminological learning theory related to this concept, is differential association theory (DFT) (Sutherland, 1947). It states that criminal behavior is developed through interactions with others (in other words: criminal behavior is learned), especially from intimate personal groups (e.g., the person's personal network) (Sutherland, 1947). The frequency, duration, priority and the intensity of the interaction with other people will influence the development of criminal behavior (Sutherland, Cressey, & Luckenbill, 1992). According to the DFT criminal behavior is enhanced by observing, imitating, and internalizing (Sutherland et al., 1992). In this way, not only criminal behavior is adopted, but also the values and attitudes related to criminal behavior. High risk network members (or subcultures) can cause individuals to end up in high risk situations, recede into risky behavior or criminal opinions. Protective network members (or subcultures) have the potential to support the individual in maintaining and carrying out prosocial behavior like cooperation with own treatment. A limitation of DFT (Sutherland, 1947) is that it does not explain why some people become criminal and others do not. Not all persons, exposed to criminal behaviors, will act criminal. For this reason, Social Learning theory (SLT) added a focus to DFT (Bandura, 1962, 1977). According to SLT criminal behavior is influenced by certain stimuli (classical conditioning), by external reinforcement (through operant conditioning) and by cognitive processes. It states that persons can learn new (criminal) behavior by observing behaviors of other

persons. Learning is considered as an interaction between personal factors, the environment, and the behavior of the learner (the individual) (Bandura, 1962, 1977).

Social Capital. Relational ties between actors can be interpreted as channels for (social) resources (Wasserman & Faust, 1994). Social Capital Theory (SCT) assumes that the more social capital a person has, the better his opportunity to achieve his personal goals (Bourdieu 1980, 1985; Coleman, 1988, 1990; Flap, 1999; Flap & Volker, 2013; Spreen, Volker, & Flap, 2002). The concept of Social Capital can be divided into two components, namely 1) social relations and 2) the quality and quantity of resources possessed by others (Bourdieu, 1985; Portes, 1998). Each individual has his own personal mix of these two components. The quality of the patient's personal network relations influences which resources are to what extent available to him. The willingness of a network member to support the other is usually associated with the intensity of the social relationship (Van der Gaag, 2005), and depends on the previous investment in this relationship (the shadow of the past), and the expected value of the relationship in the future (the shadow of the future) (Flap, 2004). From the perspective of SCT, it is important to know what network members have to offer and how much the patient values these features (e.g., skills, jobs, personal support, status). For instance, prison studies provide empirical evidence that prisoners who have access to higher levels of personal support from family members show better re-entry outcomes (e.g., Brunton-Smith & McCarthy, 2017; Ditchfield, 1994; Hairston, 1991). However, having a certain degree of social capital does not necessarily lead to positive outcomes. Network members can also generate negative social resources (i.e., 'negative social capital' (Pomp, 2005) or 'criminal social capital' (de Cuyper, 2015; McCarthy & Hagan, 1995)). Examples of the negative side of social capital are criminal friends and the presence of drugs in the personal network. Not all capital with a negative influence on the patient's behavior can be defined as 'criminal' capital. For instance, drinking alcohol per se is not a criminal act, but visiting a friend who is drinking in the presence of the patient can be risky for patients with a history of alcohol addiction (i.e., negative social capital). In addition, the same network member can also constitute a positive and a negative influence on patients' behavior. For example, a patient receives practical support from someone (positive capital), but the same person also encourages drinking alcohol (negative capital, dysfunctional role model). In the forensic psychiatric context, it is important to explore whether apparently positive capital may be risky in an individual case. For instance, a patient can use his social network members to get access to future victims (e.g., a sex offender who abuses the children of his prosocial friends). It is important to know what personal network members have, how this creates opportunities for the patient and how much the patient values these features (Pomp, Spreen, Bogaerts, & Volker, 2010).

Social Support. Social support, which can be understood as a form of social capital, has shown to be a key factor in preventing reoffending of forensic psychiatric patients. Social support can be divided in structural support (the quantity of social ties) and functional support (the availability of support functions such as affection). The personal social support network is that part of a person's network which provides the major sources of emotional and instrumental support. There is a growing body of research that link social support to the health and well-being of persons. Not all studies have shown similar results about the precise effect of social support on someone's mental health (Robinson & Garber, 1995). Many studies found a direct effect (Vilhjalmsson, 1994), but some evidence indicates an indirect effect: social support as a buffer of stressors that affect the mental health (Hobfoll, 1995). In psychological studies, stress is seen as an important and synergistic or causative factor for mental problems, such as depression and fears (Schmidt, 2000; Rice, 1999). Studies underline the need to investigate the dimensions of social support. There is growing evidence that the quality of social support is more relevant than the quantity of the support. Focusing on risk behavior, the general conclusion from literature is that increase of social support leads to a decrease in crime and delinquency (Nakhaie & Sacco, 2009). Social support theory of Cullen (1994) explains criminal behavior by the amount of positive social support individuals receive. As individuals receive more social support, they are less likely to act antisocial or criminal. The more social support a person receives, the more this person has to lose in situations where he behaves contrary to the norms of his social support group (Cullen, 1994).

Social control. The main goals of a forensic psychiatric treatment are to protect society against mentally disturbed offenders and to provide effective treatments to prevent future recidivism (Ministry of Justice, 1994). Social control and social ties may prevent forensic psychiatric patients from again engaging in criminal activities. Strong bonds are often based on mutual trust (Cullen, 1994) and are often a precondition for effective social control (Cullen, Wright, & Chamlin, 1999). Social Control Theory explains conventional (no delinquent) behavior by the degree of involvement in mainstream society (Hirschi, 1969, 1977). It states that every person is, by nature, inclined to be selfish. According to this theory, persons who are less committed and attached to society are more prone to show criminal behavior. There are four bonding elements to society: attachment[4], commitment[5], involvement[6] and beliefs[7]. Hirschi's Social Control Theory has been widely studied. For instance, multiple studies have found that persons who have a weaker bond with their parents, more often show violent behavior than those having strong bonds with their parents (Hindelang, 1973; Knight & Tripodi, 1996; Krohn & Massy,

4 Attachment: strong social attachment encourages conformity.
5 Commitment refers to the investment an individual has in social activities and institutions.
6 Involvement: extensive involvement in legitimate activities inhibits deviance.
7 Beliefs: strong beliefs in conventional morality and respect for authority figures restrain tendencies towards deviance.

1980; Sokol-Katz, Dunham, & Zimmerman, 1997). Years later, Hirschi and Gottfredson (1990) developed the 'self-control theory'. They argued that low self-control is the best predictor of criminal behavior. Self-control (internalized (early in life)) will protect an individual from criminal behavior throughout his/her life. An individual's family is the most important institution for the development of self-control and for the explanation of delinquent behavior (Gottfredson & Hirschi, 1990).

Several basic analytic units within a patient's personal network can be used to describe and understand the impact of structural variables on the four theoretical social concepts (i.e., social influence, social capital, social support and social control). The most basic unit in a personal network is a dyad (Wasserman & Faust, 1994). A dyad consists of two actors and the (possible) relational ties linking these actors together. The second basis analytic unit is the triad. A triad is "a subset of three actors and the (possible) tie(s) among them" (Wasserman & Faust, 1994, p.19). The addition of the third actor to the dyad, increases the complexity of relationships (Kadushin, 2012). Kadushin (2012) stated that "triads are the beginning of a society that is independent of the ties between a dyad" (p.22). The most famous classic theory about the complexity of triads is the balance theory of Heider (1946). Heider argued that individuals tend to choose balance states in their personal relationships. The two most important concepts are "a friend of a friend of mine is my friend" and "an enemy of a friend of mine is my enemy" (Heider, 1946; Kadushin, 2012). Balance will occur whenever all three actors (triad) like each other or in cases where two actors like each other and they both dislike the third actor. The concept of 'triadic closure' (Easley & Kleinberg, 2010; Granovetter, 1973; Heider, 1946) describes that when two people in a social network have a friend in common, they have an increased chance to become friends themselves at some point in the future. There are two possible triadic network closures in an ego network, namely no tie between the alters (open triad) or a tie between the alters (closed triad) (the ego has ties with both network members), see Figure 1.1.

To reach a deeper understanding of protective and risky patterns in personal networks, we may classify protective versus risky triads by assigning specific dichotomous compositional characteristics of network members, that is, whether an alter has a forensic risk factor, such as criminal record, psychiatric problems, drug use, alcoholism, aggression or antisocial way of life. The triad classification is inspired by the work of Kalish and Robins (2006). They introduced a method of classifying egocentric networks by a census of triads of different types (Kalish & Robins, 2006). Each classified type of triad can be interpreted in terms of risk vulnerability depending on the individual case. The vulnerability of a triad for risk depends on the social context and situations in which a specific triad is likely to emerge. In general, higher levels of interaction between high risk network members provide more opportunities to negatively influence other members and the

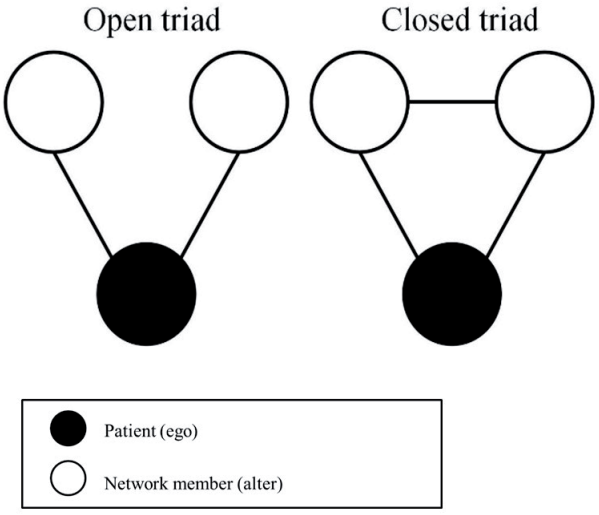
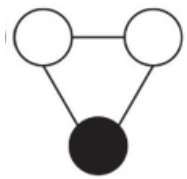
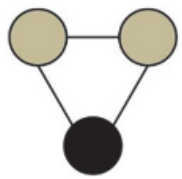


Figure 1.1 Open versus closed triad

patient (Haynie, 2001; Skeem et al., 2009). From that perspective, a triad, in which both network members have high risk characteristics and have ties with each other, has the highest level of risk, see Table 1.3. A practical example is a patient having two close friends who together are engaged in criminal activities or other risk behavior. The other way around, a triad in which two protective network members are connected will have likely the lowest level of risk, because of their collective protective influence. It should be noted that even a triad classified as 'protective' may pose a high risk in an individual case. For instance, a convicted pedophile, who creates access to risk contexts through his close friends, such as access to school yards and sports clubs. The same also applies to the defined 'risk' triads. For instance, not every patient is sensitive for (negative) peer pressure. In each personal network, it is important to have a high proportion of protective triads: these triads may counterbalance the pressure from the high risk triads.

The last analytic unit is to consider the personal network as a whole entity. A theoretically distinction is usually made between three personal network structures, namely the closed, crosscutting and spoke structure (Volker, 2001). Each structure is supposed to create its own opportunities and constraints for the focal person. The three network structures are shown in Figure 1.2.

Table 1.3 Six classified triads

						
	1	**2**	**3**	**4**	**5**	**6**
	Open triad	Open triad	Open triad	Closed triad	Closed triad	Closed triad
	Patient with ties to two network members. There is no tie between these network members. The network members ('white') do not have risk factors.	Patient with ties to two network members. There is no tie between these network members. One network member ('white') does not have the defined risk factors and the other network member ('grey') has one or more risk factors.	Patient with ties to two network members. There is no tie between these network members. Both network members ('grey') have one or more risk factors.	Patient with ties to two network members. These two network members are connected. The network members ('white') do not have risk factors.	Patient with ties to two network members. These network members are connected. One network member ('white') does not have risk factors and the other network member ('grey') has one or more risk factors.	Patient with ties to two network members. These network members are connected. Both network members ('grey') have one or more risk factors.
Vulnerability to risk	Low	Moderate	High risk	Lowest risk	Moderate	Highest risk

Note. Network members without forensic risk factors are presented as white nodes; network members with one or more forensic risk factors are presented as grey nodes (these are people who have a criminal record, psychiatric record, drug use, alcoholism and/or problematic way of living).

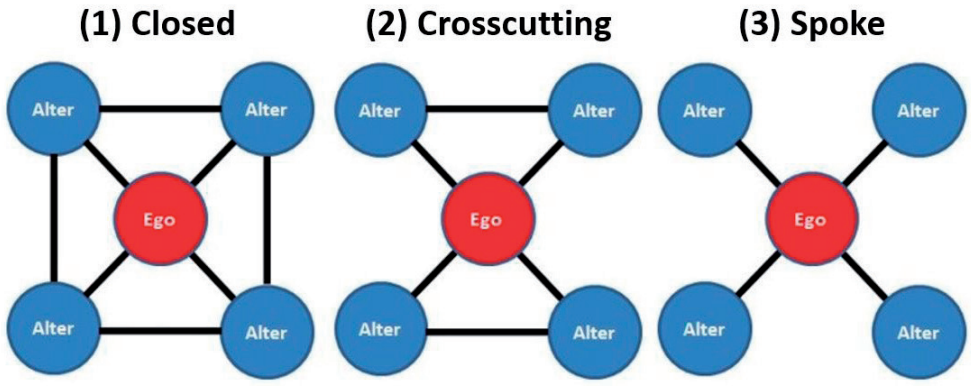


Figure 1.2 Three network structures (closed, crosscutting, and spoke)

The first structure shows the *closed* network structure, each individual is tied to all others. This structure is characterized by a high density of interrelations. The density represents how well connected the focal person and his social network members are within the network (Hirsch, 1979). The closed structure can consist of strong and multiplex relationships. The 'strength' of an interpersonal tie can be defined as "a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie" (Granovetter, 1974, p.1361). Strong relationships need investment from the actors involved. Norms are easier to establish if all network members know each other (stronger social closure). Individuals behave according to the norms of their personal network in order to achieve their personal goals, such as acceptation by his group members (Cialdini & Goldstein, 2004). In a well-connected network structure, people are highly visible for each other (can see what others are doing). People can control, monitor, and sanction each other's behavior (Cullen, 1994; Kadushin, 2012).

The second network structure in Figure 1.2, the *crosscutting* structure, illustrates a possible transition from the first to the third network structure (Volker, 2001). The focal person is the only link between various kinds of subgroups/social circles (Volker, 2001). These subgroups can only make contact with other subgroups through the focal person. Krackhardt (1999) noted that the focal person will be limited in his possibilities if he is a crucial link between two or more subgroups: the focal person will have to adjust to the different values of every subgroup. This may lead to stress and tensions (Krackhardt, 1999).

The third structure in Figure 1.2, the *spoke* structure, is the opposite of the closed network structure. The individual in the center is tied to the others, but the network

members are not interconnected and do not know each other. There are limited options for social control (Cullen, 1994). The density is low. The spoke structure consists of superficial, uniplex and often temporary relationships (Pescosolido & Rubin, 2000; Volker, 2001). The absence of ties (structural holes) offers many opportunities for ego, since there are no overlapping pieces of information that reach the focal person (Burt, 1992). The benefits are demonstrated in the classical work 'The strength of weak ties' of Granovetter (1974). Weak ties are beneficial for the opportunities of the individual and his/her integration into communities (Granovetter, 1974), because these ties connect the individual to heterogeneous individuals. These ties can have a bridging function; weak ties are needed in binding groups of strong ties together and are important for spreading ideas, information flows or influences. However, these ties can also be used by ego to manipulate others (Granovetter, 1974). An effective manipulator needs to take others into accounts and must have some underpinning of trust of feelings of safety to be effective (Kadushin, 2002). In addition, it is likely that within the spoke structure highly network specialists or brokers exist. "A broker is a professional manipulator of people and information who brings about communication for profit" (Boissevan, 1974, p.148). Burt (1992) showed the benefits of a broker role for someone's social capital: building relations with dissimilar persons gives access to different valuable resources. Structural holes offer the focal actor a high degree of freedom since his behavior towards one network member remains hidden towards other network members. The focal actor can even go as far as playing his network members against each other. Structural holes could lead to stress and problems as an individual-level outcome. It is known that stressful social relationships increase the risk of violence (Estroff & Zimmer, 1994).

The above presented implications of being part of one of the three network structures allow us to qualitatively weight the specific consequences of protective (+) or risky (-) network compositions and structures. The possible impact on social influence, social capital, social support, and social control is illustrated in Table 1.4.

In sum, personal network analysis helps to operationalize an individual social context in relation to the person's risk. In a personal network analysis of a forensic psychiatric patient all discussed theories and network characteristics are to a certain degree helpful, dependent on the context, to understand the behavior of a forensic psychiatric patient in terms of risk. In this dissertation we do not attempt to test which theory should ideally be used best in forensic psychiatric personal network research; this dissertation is an exploration about the role personal networks of forensic psychiatric patients play in risk assessment and -management with these theories in mind.

Table 1.4 Implications of being part of one of the three network structures related to the possible impact of this structures on social influence, social capital, social support, and social control ((+) = positive impact, (-) = negative impact, and (+/-) = positive and negative impacts)

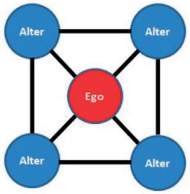
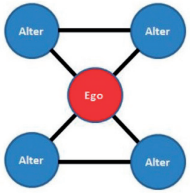
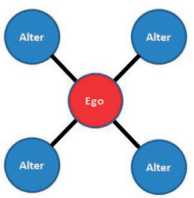
	Social influence	Social capital	Social Support	Social control
	(+): Prosocial norms are easier to establish if all network members know each other (stronger social closure). (-) If this structure consists of individuals with risky norms or forensic risk factors, these significant others may negatively influence the patient's behavior.	(+) Relational ties are channels for (social) resources). In this structure, it is likely that the relationships are of a high quality, characterized by a high willingness of a network member to support ego. (-) Strong ties may connect the individual to homogeneous individuals with a low variety of resources.	(+) Strong and multiplex relationships: higher willingness to support, more opportunities to have a stable social support system. (-) Strong social support ties may connect individuals to homogeneous individuals with similar financial, practical, emotional support options. In cases of severe conflicts or strong disagreements with group members, ego may lose his whole or at least a significant part of his social support system.	(+) People are highly visible for each other (can see what others are doing). People can control, monitor and sanction each other's behavior. (-) Being highly visible for each other may be stressful. Group members have to behave according to values and norms of the group. It depends on the nature of the closed group whether this is risky[a].
	(+/-) Prosocial and risky norms are easy to establish in the two subnetworks. Ego is the only link between the various kinds of subgroups/social circles. Ego is influenced by both groups. In cases, where there are different norms, ego will have to adjust to the different values of every subgroup. This may lead to stress and tensions.	(+) It is likely that the relationships in the subgroups are of a reasonable quality, characterized by the willingness of network members to support ego. (+) The two subgroups may connect the individual to more heterogeneous individuals with a variety of resources.	(+/-) Reasonably strong relationships imply a willingness to support ego. There are within both subgroups more opportunities to have a reasonably stable social support system.	(+/-) Ego is the only link between the two subgroups. Ego can behave differently in the subgroups. There are only control options within the groups (+), not between the groups (-). Ego has opportunities for manipulations between the groups (-). His behavior towards one network member in one subgroup remains hidden towards his alters in the other subgroup.

Table 1.4 – *continued*

	Social influence	Social capital	Social Support	Social control
	(-) Norms are difficult to establish if all network members do not know each other (weak social closure). Social influence is fragmented.	(+) Weak ties connect the individual to heterogeneous individuals with a variety of resources. Weak ties are needed in binding groups of strong ties together and are important for spreading ideas, information flows or influences. (-) Superficial, uniplex and often temporary relationships, no stability in accessibility of social resources.	(+/-) It is likely that the relationships are uniplex. The social support is individually focused. The stability of the available social support depends on the individual characteristics of the relationships between ego and a certain alter. In cases of weak ties, the availability of social support will not be stable.	(-) People are not visible for other network members. Structural holes offer ego a high degree of freedom. Ego can even go as far as playing his network members against each other. Ego has opportunities for manipulation.

[a] For example: there are well-known cases of forensic psychiatric patients as sect leaders. Individuals have in their role as sect leader opportunities for manipulations, oppression and committing offenses (due to the closed sect structure, they have opportunities to control their network members).

1.5 The outline of this dissertation

Chapter 2 introduces the key elements of the data collection instrument FSNA, which are applied in all studies, and gives also some general practical guidelines how to analyze the collected personal network data.

A series of personal network studies are conducted to explore the added value of the FSNA approach in identifying patients' distinctive (social) patterns of (risk) behavior (Chapters 3-5). Chapter 3 presents the results of a small descriptive retrospective research on the personal social networks of personality disordered forensic psychiatric patients. The purpose of this study is to explore the extent to which network size, composition, and structure of the personal networks of forensic psychiatric patients change over time and how this type of information can be used for risk assessment and management. Chapter 4 demonstrates the potential benefits of using the FSNA data collection instrument to examine the role personal networks play in individual cases. Three case studies demonstrate the four basis steps of the FSNA data collection instrument. Chapter 5 addresses the benefits of monitoring social support using FSNA collected data in outpatient treatment. A prospective case-study examines changes over time in the social support network of a forensic psychiatric outpatient. It addresses the importance for including characteristics of the patient's (social) context in his individual risk assessment and management

Chapter 6, the final chapter provides a general discussion of the main findings of this thesis. Future directions and implications for the forensic psychiatric practice will be discussed.

CHAPTER 2

The Forensic Social Network Analysis (FSNA) data collection instrument

In this chapter, the Forensic Social Network Analysis (FSNA) data collection instrument, which has been applied as the data collection method underlying the empirical studies in this dissertation, is introduced. This instrument consists of a series of semi-structured interviews with the patient and some of his relevant personal network members. The items which are collected by the FSNA instrument are mainly extracted from the risk assessment, -management and social network concepts presented in Chapter 1. This chapter starts with a brief history of the FSNA data collection instrument and the practical personal network approach as implemented in Dutch forensic psychiatric centers (paragraph 2.1). Paragraph 2.2 lists the type of personal network research questions that can be answered based on the collected FSNA data, while paragraph 2.3 describes the FSNA instrument in more detail. Paragraph 2.4 offers general practical guidelines to analyze a single personal network of a forensic psychiatric patient. Paragraph 2.5 provides some additional information on how to report the personal network outcomes. Paragraph 2.6 presents the exploratory research design of the limited personal network sample that is used for the studies in Chapters 3, 4 and 5. The last paragraph (2.7) provides an overview of important definitions used in this dissertation.

2.1 A brief history of the FSNA data collection instrument

Social workers in forensic psychiatric centers support patients in controlling their offending behavior and help them to live socially responsible lives obeying the law, by involving their families, friends, and other network members (McNeill & Whyte, 2007). For adequate care and risk management, social workers should have a clear view of the social relationships of a forensic psychiatric patient. Around 2003/2004 a group forensic social workers of different forensic psychiatric centers and researchers of Forensic Psychiatric Center Dr. S. van Mesdag regularly met to explore and exchange professional experiences of working with patients and their personal networks in their daily routine. At that time, two risk assessment instruments, i.e., the HCR-20 (Webster, Douglas, Eaves, Hart, 1997; Dutch version: Philipse, de Ruiter, Hildebrand, & Bouman, 2000) and the HKT-30 (Werkgroep Risicotaxatie Forensisch Psychiatrie, 2002), were introduced in the treatments of forensic psychiatric patients. The forensic social workers felt the urge to follow this trend because they were aware of the importance of personal networks in the risk management of their patients. In regular meetings, individual cases were thoroughly discussed. Positive effects but also negative effects of the role of personal networks in counselling were listed and assessed. An example of a positive effect was the protective influence personal network members had on the compliance of medicine intake of a schizophrenic patient during his leave period. An example of a negative effect was a friend of a patient who influenced the patient to commit a heist together. From these anecdotal cases, it was decided to develop a systematic way to sample and analyze

individual personal networks, so a more standardized but tailored counselling would be possible. An instrument, called Forensic Social Network Analysis (FSNA), which was developed earlier by the research department of FPC Dr. S. van Mesdag in cooperation with its social work department, was taking as starting point for further elaboration.

From 2005, the TBS system in the Netherlands became a central and recurring topic in political and societal discussions. A parliamentary commission was put in place after several patients committed serious incidents during leave. This commission recommended an increase in funds to facilitate more extensive scientific and practical research into the effectiveness of treatment methods: this research should focus on the identification of underlying risk factors (Parlementair onderzoek TBS, 2006). Dutch scientists launched new studies to improve the identification of risk factors and one of these initiatives was focused on the way a personal network approach could contribute to a better understanding of (risk) behaviors by forensic psychiatric patients. In 2006, the Dutch Custodial Institutions Agency (Dienst Justitiële Inrichtingen (DJI)) requested the initial FSNA group to develop and experiment with a personal network approach on a nationwide scale in nine Dutch FPC's (Spreen & Pomp, 2009). The project objectives were (1) to professionalize forensic social work, (2) to provide additional information for risk assessment/-management purposes at the patient level, (3) to monitor risk behaviors of individual patients in unobserved and uncontrolled social situations outside the clinic by using personal network-members as source of information, (4) to define network interventions, and (5) to implement a uniform personal network procedure in the participating institutions (Spreen & Pomp, 2009). In 2007, this implementation started as a joined effort of forensic social workers in nine FPC's[8], the forensic psychiatric observation clinic Pieter Baan Center and also probation officers from several probation services. The project was funded by the Dutch Custodial Institutions Agency (DJI), the Expertise Center Forensic Psychiatry (EFP) and the nine Forensic Psychiatric Centers. This nationwide project also allowed exploration of the added value of personal networks for the forensic psychiatric population and was the starting point of this dissertation.

2.2 Basic personal network questions for forensic psychiatric patients

Already in the early eighties of the last century, Monahan (1981) stated in his classic work '*Predicting Violent Behavior: An Assessment of Clinical Techniques* (1981)' that one way to decide whether a given item describes the kinds of environment in which the

8 FPC Dr. S. van Mesdag, FPC Veldzicht (current name: CTP Veldzicht), Hoeve Boschoord (current name: Trajectum), FPC De Rooyse Wissel, FPC De Woenselse Poort, FPC De Kijvelanden, FPC Pompestichting, FPC Oldenkotte (closed in 2014), FPC Oostvaarders, FPC Van der Hoeven Kliniek (FPC Van der Hoeven ended participation in the first year of the pilot).

individual can be expected to be violent, is to rate the kinds of environment in which the person had been violent in the past'. Monahan (1981) summarized situational and environmental correlates of violent behavior that may be used for prediction in individual clinical cases. He finished his discourse with the observation that especially much more research was needed to practical clinical tools by creative clinical experimentation. For this purpose, Monahan posed, based on earlier work of Bem and Funder (1978), three questions to analyze a single patient with respect to his violent behavior:

1. What characteristics describe the situations in which a person reacts violently?
2. What characteristics describe the expected situations which a person is likely to face in the future?
3. How similar are the expected situations to those that have elicited violence in the past?

Elaborating and inspired by the work of Monahan (1981), we modified his questions into three basic questions to analyze personal networks of forensic psychiatric patients:

Three basic research questions for a forensic psychiatric personal network analysis

1. Which network members/personal relationships are supposed to have a risk-increasing and/or a risk-reducing (protective) influence on patient's behavior in the run-up to the crime?
2. Which types of network members/personal relationships are more likely to have a risk-increasing and/or a risk-reducing (protective) influence on patient's behavior in current and future social situations?
3. What are the differences and similarities between the risk-increasing and/or risk-reducing roles network members have on patient's behavior in current and future risk-increasing social situations compared to those in the run-up to the crime?

These questions can be used to stepwise analyze and interpret personal networks of forensic psychiatric patients. In step one network members and structures are determined that are supposed to have had a risk-increasing and/or a risk-reducing influence on the patient in social situations in the run-up to the crime. The period of the run up is defined about 12 months before the crime and called 'Historical Personal Network' (HPN).

Step two is a repetition of step one, but for the current and future situation. The current situation is focused on the previous 12 months during forensic psychiatric treatment and called the 'Clinical Personal Network' (CPN). The personal network in which the patient will function when he re-enters society is called the 'Future Personal Network' (FPN).

In the third step, the differences between HPN and CPN/FPN are focus of qualitative analysis. The different risk-increasing and/or risk-reducing roles network members have in current and possibly future risk-increasing social situations to influence the behavior of the patient are compared and evaluated with those in the HPN. For instance, a current network member may be new, but his positive or negative influencing role may be similar to a network member in the HPN. The aim of this comparison is to evaluate whether the different roles of former, new and possible future network members sufficiently lower the risk on short and/or long-term recidivism of the patient and/or whether leave is possible.

2.3 The FSNA data collection instrument

To collect data that addresses the three basic questions for personal network analysis of forensic psychiatric patients, the FSNA data collection instrument is applied. Data collected by this method are obtained from three different data resources, i.e., administrative records, self-reports from the patient and a limited part of relevant network members. Electronic patients' files can be used to collect personal and forensic psychiatric characteristics, such as psychiatric and criminal history. In addition, the patient and a limited number of patient's network members are interviewed to get more detailed information about specific individual risk and protective behaviors of the patient and his network members. The FSNA data collection method has a strong focus on individual storylines. A narrative approach may contribute to a better understanding of how individuals conceptualize their actions and what motivates and deters them from risk behavior (Agnew, 2006). Network members are asked about their perceptions on the patient's behavior and committed offense(s): risks, motivation, triggers, level of skills, etc. Including network members as data resources provide opportunities to evaluate social contexts in which there are no institutional observers. From an institutional view, network members are informants to assess whether a patient adequately applies learned skills in uncontrolled environments. In that respect, informal network members are the eyes and ears of professionals (Shapiro & diZegera, 2010). Another benefit is that informal network members may provide collateral information about the patient, other personal network members and themselves.

To collect personal network data using the FSNA instrument four basic steps can be followed

1. Desk research
2. A patient's interview
3. Selecting network members
4. Network members interviews

Step 1: *desk research*. A personal network research in which the FSNA data collection instrument is applied starts with collecting relevant administrative background information. Electronic patients' records can be used to collect personal and forensic psychiatric characteristics, such as psychiatric diagnoses and criminal history (see Table 2.1). Information of the life history before the committed crime and the patient's treatment history, with the focus on the last 12 months is collected. The life history can be systematically structured with the historical, clinical, and future indicators of a structured risk assessment tool in mind (Chapter 1, paragraph 1.3). In the prior described nationwide FSNA project in Dutch FPC's (see paragraph 2.1), the Historical Clinical Future-30 was used to structure the narrative information of a patient's life history (HKT-30; Werkgroep

Table 2.1 FSNA Patient record – background information

FSNA - Patient Record		
BACKGROUND INFORMATION		
Patient's name, place of birth, country of birth, background family of origin		
Index Delict		
Start date TBS treatment, treatment phase, history of (un-)supervised leaves		
DSM-IV diagnosis (American Psychiatric Association, 1994), IQ scores		
Life history: relevant risk assessment information about the patient and his network members on historical and clinical dynamic indicators, as defined in the HKT-30		
• H01 Offense history: types of crimes, motives, geographical place of committed crimes, types of victims (gender, age, part of network, etc.), co-offenders (part of network) • H02 Breaching conditions about treatment and supervision • H03 Behavior problems before age of 12 years • H04 Victim of violence in childhood • H05 History of care • H06 Employment history • H07 History of substance abuse • H08 Psychotic disorders • H09 Personality disorders • H10 Psychopathy • H11 Sexual deviance	• C01 Problem recognition • C02 Psychotic symptoms • C03 Substance use • C04 Impulsiveness • C05 Lack of Empathy • C06 Hostility • C07 Social and relational skills • C08 Self-support • C09 Problems with acculturation • C10 Attitude towards treatment • C11 Responsibility for the offense • C12 Sexual preoccupation • C13 Coping skills	• F01 Agreement about conditions • F02 Material conditions • F03 Daytime activities • F04 Skills • F05 Social support and network • F06 Stressful conditions

Risicotaxatie Forensische Psychiatrie, 2002). This is one of the risk assessment tools, which has been obliged by the Dutch government since 2004 (current version: Historical Clinical Future-Revised (HKT-R); Spreen, Brand, Ter Horst, & Bogaerts, 2014). The reason for choosing this risk assessment tool was its specific development for the Dutch context and the ability to show reasonable to good predictable validity at group level (Hildebrand, Hesper, Spreen, & Nijman, 2005; Lammers, 2007).

To examine the life history, in the administrative reports about the patient, information important for risk assessment and -management based on the HKT-30 is searched with an emphasis on social risk and protective factors, such as network members with positive or negative influence on patient's risk behavior (e.g., bad and good friends). In addition, information about current social connections between the patient, his personal social relationships in the FPC and personal networks members outside the FPC are noted.

Step 2. *Patient interview*. After examining and processing the information in the administrative records, the patient will be approached and asked for a semi-structured interview. To elicit the network members in patient's HPN, CPN or FPN, patients are asked to mention a maximum of 40 people they consider as network members for each time period. The FSNA data collection instrument uses name generators to include network members and the relations among them. The use of name generators is well-established in personal network research (Burt, 1984; Campbell & Lee, 1991; Laumann, 1966). To trace back the HPN the following name-generation question is posed: "*If you go back in time to the period of 12 months before your detention started, with whom did you have a meaningful relationship at that time?".* To disclose present personal network contacts the following question is formulated: "*Considering the last 12 months, with whom did you have a meaningful contact?".* To disclose personal network contacts in the next future, the following broad question is formulated: "*Whom do you consider to be or become a meaningful contact in the next future?".*

The name-generating procedure is employed as follows. First, family members are listed, next important contacts outside the family are sampled covering different relational roles.

After all recalled names are inventoried, more specific information about each network member and the quality of the contact between patient and the listed network member is asked from the patient. Personal characteristics of the network member as well as relationship characteristics and so-called forensic risk factors of network members are asked. These forensic risk factors were extracted from the central eight criminogenic risk/need factors of Bonta and Andrews (2010) (see table 1.1 in Chapter 1). At the end of each FSNA patient interview, a series of questions concerning the social support system

are posed. Patients are asked to name those people from whom they have received social support. As stated in Chapter 1, empirical studies have shown that social support is known to be a key factor in preventing reoffending of forensic psychiatric patients (Bouman, 2009; Kogel & Nagtegaal, 2008). The FSNA data collection procedure concerns four types of social support: companionship (spending time together), financial support (borrowing money), practical support (domestic help) and emotional support (seeking advice, talking when troubled). Patients are also asked with whom they had a stressful relationship and whom they asked for help when they were in trouble. Present or future strains (stressors) may leave patients prone to relapse (e.g., interpersonal conflicts, different expectations, other norms and values), especially if these strains (stressors) were also present prior to the offenses (Monahan, 1981). Finally, to determine linkages between patients' network members, patients are asked to give their perceptions about how well their network members know each other. Table 2.2 shows the FSNA patient interview in more detail.

Table 2.2 FSNA Patient interview – name generators and name interpreters

FSNA patient interview	
Historical Personal Network (HPN)	
	If you go back in time to the period of 12 months before your detention started, with whom did you have a meaningful relationship at that time?
Name generators	Did you have contact with… your father/stepfather, mother/stepmother, partner/ex-partner, brother/half-brother/stepbrother, sister/half-sister/stepsister. Next, important contacts outside the family are collected covering different relational roles: friends, boss, colleagues, neighbors, acquaintances, people from church, sports buddies, people from (leisure) clubs, social media, or other contacts. Patients are asked to mention 40 people at a maximum which they consider as personal network members in the 12 months run-up to the offense.
Name interpreters personal attributes per mentioned network member	• Gender, age, occupation, place of birth, geographic location • Living conditions (living alone, living with partner/children, living with others). • Leisure activities: volunteer work, sport or social clubs, religious, political or other organizations.
Name interpreters Relationships attributes per network member	• How long have you known …? • How did the relationship start? How and where did you meet? • How often did you have contact with …. at that time? (daily, every week, every two weeks, every month, every three months, less frequency, no contact). • How did you communicate? (face-to-face, written, telephone, internet). • Who contacted whom? (patient, network member, both, through others)

Table 2.2 FSNA Patient interview – name generators and name interpreters (continued)

High risk factors listed per mentioned network member	• Did network member have a criminal record? • Did network member have psychiatric problems? • Did network member use soft drugs? • Did network member (regularly) use hard drugs, such as heroin, cocaine, crack, ecstasy, LSD, other drugs? • Did network member have problems with alcohol? Was he/she drunk once a week or more often? • Did network member face financial problems? • Did network member face housing problems, such as not paying rent or mortgage, evicted and tensions with neighbors?
Name/resource generator – social support system	• Many people tend to visit others in their spare time to spend quality time together. Did you have persons that you visited regularly with the purpose of spending quality time together? If yes, who? • Who came to visit you? • With whom did you undertake activities? (shared recreational activities) • Imagine that you needed money (think about an amount of 200 euros), from whom did you expect financial support back then? • Who did ever lend money to you (more than 50 euros)? • Did you lend money to others? Who were they? • From whom could you expect help in daily life (e.g., household shores, and administrative matters). Who did help you with daily life shores at that time? • Did you help persons with their daily life shores? If yes, who? • From time to time, most people discuss things that are important to them with others. For instance, job advice, study issues, parenting advice, etc. Who were the people you went for advice? With whom did you talk about personal matters? • Did people ask you for advice? If so, who? • Did you ask for help to anyone just before the committed crime(s)? If yes, who? • With whom did you experience tensions/conflicts at that time? Besides the persons you already listed, is there anyone (else) who was very important for you?
Network structure	How well did your network members know each other? Answers options • They did not know each other; • They avoided each other; • They knew each other, but there was no contact; • They hardly knew each other; • They knew each other reasonable; • They knew each other well; • They knew each other well, but they do not get along; • They knew each other and get along.

Table 2.2 FSNA Patient interview – name generators and name interpreters (continued)

Clinical Personal Network (CPN/FPN)	
Name generators	*Considering the last 12 months, with whom did you have a meaningful contact?* Your father/stepfather, mother/stepmother, partner/ex-partner, brother/half-brother/stepbrother, sister/half-sister/stepsister. Next, important contacts outside the family are collected covering different relational roles: friends, fellow inpatients, forensic health professionals, boss, colleagues, neighbors, acquaintances, people from church, sports buddies, people from (leisure) clubs, social media, or other contacts. Additional questions focus on the 'future' personal network after mandatory forensic psychiatric treatment: • With which person(s) that used to be important to you, did you decide to fully terminate all forms of communication? • With which of the person(s) that you fully terminated all forms of communications with, do you hope to reconnect in the future? • Suppose that you visit your family or friends during a leave or after your TBS order, which other persons will you encounter there? Would you like to have contact with this person/these person in the foreseeable future? • In what city or village do you plan to live? Which past acquaintances would you encounter there? Would you like to have contact with this person/these persons in the foreseeable future? • Do you know in which organization you would prefer to work in the future? Do you know any of the persons there? Would you like to have contact with this person/these persons in the foreseeable future? • In what manner do you plan to spend your free time? What activities are you planning? Is it likely that you will be running into any acquaintances there? Would you like to have contact with this person/these persons in the foreseeable future? • If you do not have a partner at the moment: would you like to have a partner in the foreseeable future? And do you already have someone in mind? If yes, then who? • If we would scroll through the list of names that we have written down so far, is there anybody that is important for you that is still missing from your list? Patients are asked to mention 40 people at a maximum which they consider as network members in the period of 12 months prior to the interview and in the next future.

Table 2.2 FSNA Patient interview – name generators and name interpreters (continued)

Name/resource generator – social support system	• Many people tend to visit others in their spare time. To spend quality time together. Who are you planning to visit after your TBS order is finished? • Who do you think, will visit you in the time after your release? • With which persons did you plan any activities the last 12 months? • Suppose that you need money (think about an amount of 200 euros), from whom do you expect financial support (loan or gift)? • Did you borrow money from persons in the last 12 months? If yes, who? • Did you lend money to people in the last 12 months? If yes, who? • Who did help you in daily life (e.g., household shores, administrative matters). Who did help you with daily life shores in the last 12 months? • Did you help persons with their daily life shores in the last 12 months? If yes, who? • From time to time, most people discuss things that are important to them with others. For example, job advice, study issues and parenting advice. Looking back over the last 12 months, who were the people you went for advice? With whom did you talk about important personal matters? • Looking back over the last 12 months, who did discuss his/her personal matters with you? • Imagine that you experience severe stress and you are afraid to commit a new offense, who will you contact for help? • Who do you think will be the most disappointed if you do not succeed in a crime-free life? • With whom do you experience tensions/conflicts? • Which persons on this FSNA list know the details of your TBS order?
Network structure	How well do these two network members know each other? Answers options • They do not know each other; • They avoid each other; • They know each other, but there is no contact; • They members hardly know each other; • They know each other reasonable; • They know each other well; • They know each other well, but they do not get along; • They know each other and get along.

Step 3: *selection procedure network members*. After having interviewed the patient, permission must be asked to interview some of his network members. It is important that the risk management professional (most times a social worker), and not the patient, chooses which network members will be invited for an interview. A consequence of this choice is that a patient must release his control over who is allowed to give information about his behavior and situation. A small explorative study of 15 patients on leave in FPC Dr. S. van Mesdag found that patients who refused to cooperate with this selection procedure had more registered incidents in the year after the personal network research (from the eight patients, six had registered incidents) than the patients who gave their permission (from the seven patients, one had a registered incident) (Spreen & Pomp, 2006). In situations in which patients try to manipulate or reject the choice of network members, it is important to investigate the reason why patients refuse to cooperate.

Network members are selected based on their roles, network positions and their influence in the CPN and FPN. Explicit rules which network member to select and interview are difficult to define. Each patient has his own significant social network factors. The professional has to select those network members who are thought to be risky and/or protective for risk management purposes.

Step 4: *network member interview*. The selected network members are invited for an interview. In this interview, the same questions as in the patient interview are posed (e.g., the personal and social support variables). Some additional questions are asked concerning the network members' opinion about patient's ability to remain crime free. Each network member is also asked to name individuals who (1) are friends of the patient, (2) are common friends of the patient and the network member, (3) provide social support to the patient, and (4) have a positive or negative influence on the patient. This way also network members not mentioned by the patient may be detected. These network members might also be invited for an interview, if needed, dependent on the assessment of the professional.

The network interview is preferably conducted at home. This provides the professional advantage of observing the network member in his/her own natural environment. It gives insights into the network members' housing situations and neighborhood. See Table 2.3 for a more detailed description of the network member interview.

Table 2.3 FSNA network member interview

FSNA Network Member interview	
Personal attributes	• Date of birth, place of birth, highest completed education level of network member. • Having a partner, children. • Living conditions (living alone, living with partner/children, living with others). • Leisure activities: volunteer work, sport or social clubs, religious, political or other organizations.
Questions about forensic risk factors	• Did you ever have problems with the criminal justice system? • Did you ever receive professional support for mental health problems? If so, what kind of support? • Did you ever use drugs? If so, what types of drugs? • Did you ever drink alcohol? If so, amount/frequency? • Did you face financial problems? • Did you ever face housing problems, such as not paying the rent or mortgage, evicted, tensions with neighbors, etc.? • Have you ever been a victim of a crime?
Questions about patient – network member relationships	• How are you connected with ***? *(network role)* • How long do you know ***? *(duration)* • How/where did you meet? *(origin of contact)*
Questions Historical Personal Network (HPN)	
Questions about patient – network member relationships	Looking back on the 12 months before ****'s committed crime(s)… • how often did you have contact with ….? (daily, every week, every two weeks, every month, every three months, less frequency, no contact). • how did you communicate? (face to face, written, telephone, internet). • who contacted whom? (patient, network member, both, through others) • which persons had a positive influence on the behavior of ***? • which persons had a negative influence on the behavior of ***? • could you define retrospectively, risk signals that were related to the risk behavior of ***? What signals? And could the crime have been prevented? If so, how?
Questions Clinical Personal Network (CPN)	
Questions about patient – network member relationships	• How often did you have contact with *** the last 12 months? (daily, every week, every two weeks, every month, every three months, less frequency, no contact). *(frequency)* • How did you communicate the last 12 months? (face to face, written, telephone, internet). • Who contacted whom the last 12 months? (patient, network member, both, through others) *(reciprocity)* • Imagine your contact before ***'s detention, do you think that there have been changes in your contact with ***? • Do you experience tensions/conflict in the relationship? If so, what kind of…?

Table 2.3 FSNA network member interview *(continued)*

Social support questions	• Many people tend to visit others in their spare time to spend quality time together. After his release, do you plan to visit ***? Is he welcome to visit you? • Did you plan any activities with *** the last 12 months? Would you plan any activities with *** during his leaves/after his release? • Imagine that *** needs money for buying a refrigerator, would you lend him money? Do you know other persons who might help him out? • Imagine that *** asks for your help in his daily life shores (e.g., household shores, administrative matters), would you help him, even if you have to cancel/reschedule other plans? Do you know other persons who might help him out? • From time to time, most people discuss things that are important to them with others. For example, job advice, study issues and parenting advice. Looking back over the last 12 months, did *** ask you for advice? Did *** talk with you about important personal matters? Did you talk about your personal matters with ***?
Crime related questions	• Do you know the crime history of **** in detail? If so, could you tell me what you know? • Do you know the reason why **** is treated in a forensic psychiatric center? If so, can you tell me the reason? • Do you consider **** a psychiatric patient?
Importance of other network members	• Which persons do you think are important to *** in the current situation? (maximum of five names) • Who are the friends of *** in the current situation? • Who are common friends of you and ***? • Who (else) provides social support for ***? • Who (else) has a positive influence on ***? (maximum of five names) • Who (else) has a negative influence on ***? (maximum of five names)
Network member's opinion about patient's ability to remain crime free	• What is in your opinion necessary to accommodate a successful return to society? • What are stressful circumstances for *** after his release? • How much confidence do you have that *** - can have a crime-free future? - will ask for help? - will undertake meaningful activities? - if applicable: takes his medicines? - find a stable job? - is able to live on his own? - will make new contacts? - maintain his contacts? - manage his own financials? - will not use drugs? - if applicable: will not drink alcohol? *(1. No confidence at all, 2. Somewhat confident, 3. Confident, 4. Very confident, and 5. Very much confident)*

2.4 Some general guidelines to analyze forensic psychiatric patients' personal networks

As already mentioned in paragraph 2.2, the underlying principle of the analysis is the comparison between time periods, i.e., the historical personal network (HPN) and the clinical and future personal network (respectively CPN and FPN). To structure the analysis, some practical tables and network visualizations have been developed during the nationwide study (see 2.1), which we will discuss next.

2.4.1 Criminal history table

The so called "criminal history table" can be used to examine whether a patient has a specific profile of offense characteristics (Table 2.4).

Table 2.4 shows a patient's offense history table from an applied personal network research. This patient was 14 years old at the time of his first registered offense, and 29 years old at the time of his index delicts. All types of offenses were sexual driven, the index delict against his partner was also characterized by severe physical domestic violence. No co-offenders were involved. All victims were female and they were from a different age: one victim was a very young girl (4 years old), the other victims were adults in the age of 18 to 32. Four victims were randomly chosen by the patient, two victims were part of the patient's personal network (his partner and the young girl). Details on one victim's characteristics were not registered in the patient's file. The geographical crime scenes differed (e.g., own house, parental house, and public road), but all offenses were committed in the same town. Based on this table, one may question whether the patient should rehabilitate in the same area, especially if his victims still live in the same area. At the time of the index delicts, the patient's risk behavior was worsened by alcohol, drugs, and his fear of abandonment. For risk management purposes, it is therefore important to establish if the patient has easy access to alcohol or drugs via his current network members. Network members who use alcohol or drugs may pose a risk for him. In addition, it is important to establish whether experiences of the patient with his current partner cause fear of abandonment or other stressful feelings/issues.

2.4.2 Social support table

To assess the degree of social support, the so called "social support table" can be used. This table shows the degree of (dis-)agreement between the social support answers of the patient and his interviewed network members. Categories of social support are: companionship (spending time with), financial (borrowing money), practical (domestic help) and emotional (seeking advice from). Misperceptions between patient and his network members are of special interest. An assumption is that each misperception may lead to stress when the patient re-enters society (Pomp, Spreen, Bogaerts, & Volker, 2010). A FSNA social support table example is shown in Table 2.5.

Table 2.4 Example of a criminal history table

	Index delict	Previously committed offense	Previously committed offense	Previously committed offenses
Type(s) of offense(s)	Attempted homicide Sexual assault	Sexual assault	Fornication of minor	Multiple sexual assaults
Patient's motive(s)	Attempted homicide: frustration. Sexual assault: sexual motivation, lust.	Sexual motivation, lust.	Sexual motivation, lust.	Sexual motivation, lust.
Date committed offense, patient's age	2003, 29 years	2002, 28 years	1994, 20 years	1988, 14 years 1990, 16 years 1992, 18 years
City or village	**** (same town) Attempted homicide: in patient's and his partner's house. Sexual assault: public road	**** (same town, public road)	**** (same town, patient's parental house)	**** (same town, public roads)
Characteristics victim(s) (gender, age, part of network)	Psychical/sexual violence against partner (female, 26 years) Sexual assault: a woman walking on the public road (32 years), not part of patients' network	Unknown	Daughter of the patient's neighbor, 4 years.	Victims were strangers (not part of the patient's network). Females, young adults (18, 18, 20).
Co-offender(s) If yes: characteristics victim(s) (gender, age, part of network/ relation to offender)	No	No	No	No
Important offense components	Sexual component	Sexual component	Sexual component	Sexual component
Offense behavior was stimulated by	Alcohol, drugs, fear of abandonment	unknown	unknown	unknown

Table 2.5 FSNA social support table

Social support	Spending time with (companionship)	Borrowing money (financial)	Domestic help (practical)	Seeking advice from (emotional)
From friend A				
according to patient	Yes	Yes	No	Yes
according to friend	Yes	No	No	Yes
From friend B				
according to patient	No	Yes	Yes	Yes
according to friend	Yes	No	Yes	Yes
From brother				
according to patient	Yes	Yes	Yes	Yes
according to brother	Yes	No	No	No
From mother				
according to patient	Yes	Yes	No	Yes
according to mother	Yes	No	Yes	Yes

Retrieved from Pomp, Hendriks, Kremer, and Spreen (2007).

Table 2.5 shows a social support table from an applied personal network research (Pomp, Hendriks, Kremer, & Spreen, 2007). This forensic psychiatric inpatient expected to receive companionship, financial and emotional support from all four interviewed network members. He assumed that he would also receive practical support from two network members, namely from friend B and his brother. Table 2.5 shows that fifty percent of the listed social support is based on symmetrical expectations between the patient and a specific network member (yes/yes-no/no combinations). The same percentage of the listed social support is based on disagreement (yes/no – no/yes combinations). Therefore, the question is how to qualify a certain (dis-)agreement related to a patient's assessed social factors. In this example, patient listed four times his brother as social supporter, whereas his brother did this only one time. The brother mentioned that he knows patient's vulnerabilities (patient's life was characterized by drug dependence) and that he had no confidence in his brother's reintegration in society. The brother would rather have limited contact with patient. Mother, on the other hand, wants to support her son during his resocialization phase, but she would not take the risk that he spends money on drugs. In the words of the mother "If he needs anything for his future house, I will buy it for him".

2.4.3 Visualization of networks

Network visualization may help to better identify relationships between compositional and structural variables. Social Network Analytic tools can be used to create visual representations of the personal networks at the different periods (e.g., UCINET and Analyst Notebook). These visualizations are helpful in discussing the possible network dynamics

together with the patient, and the multidisciplinary treatment team. An example of a helpful visualization is shown in Figure 2.1.

The visualization in figure 2.1 was constructed based on the interview data of one of the first personal network studies in which the FSNA data collection instrument was applied (Pomp et al., 2007). The Future Personal Network (FPN) as constructed from the interview with the patient was compared to the FPN based on the given information of the interviewed network members into account. The interview data of the selection of his network members (e.g., father, mother, brother, and one friend) showed a completely different picture of patient's future situation outside the forensic treatment center. Although the patient thought that all his network members, excepted his brother, wanted to stay in contact with him when reentering society, only his brother wanted to renew their contact in near future. The visualization of the discrepancies between the

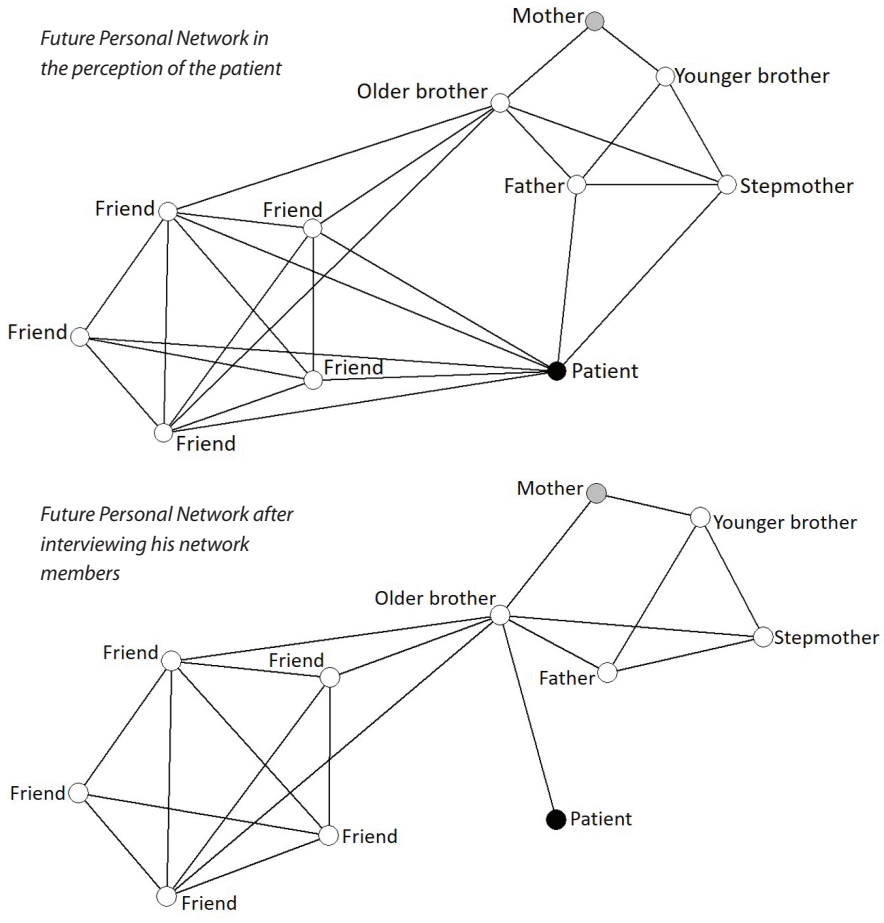


Figure 2.1 Example of a network visualization

patient and his network members was used in the feedback session with the patient to underline his 'real' support options outside the treatment center in his future life.

2.5 FSNA report

From the nationwide explorative study (see 2.1), a so-called FSNA report was proposed for processing the personal network data in a structured standard way. Significant background information and findings are reported step-by-step, see Text box 2.1 for the outline of the report. After assessing and analyzing the patient's risks and needs in his current or future personal network, interventions must be tailormade to fit the patient's individual risk profile. According to the RNR model, the frequency and intensity of each intervention must be adjusted to the risk level of the offender (Andrews & Bonta, 1994).

Textbox 2.1 FSNA report outline

FSNA report step-by-step
1. General background information (relevant historical information)
2. The extent to which patient and network members cooperated with FSNA research
3. Description of HPN: which network members/personal relationships are supposed to have a risk-increasing and/or a risk-reducing (protective) influence on patient's behavior in the run-up to the crime?
4. Description of treatment history (relevant clinical items)
5. Description of CPN/FPN: which network members/personal relationships are supposed to have a risk-increasing and/or a risk-reducing (protective) influence on patient's behavior in current and future social situations?
6. Comparison between HPN and CPN/FPN: What are the differences and similarities between the risk-increasing and/or risk-reducing roles network members have on patient's behavior in current and future risk-increasing social situations compared to those in the run-up to the crime?
7. Risk management suggestions based on assessed historical, clinical and future risk/protective factors

2.6 Personal network studies in this dissertation

The next Chapters (3-5) present a series of studies in which the FSNA data collection instrument has been applied in a forensic psychiatric population. All patients from the study in Chapter 3 were participated in the nationwide FSNA pilot project (2007-2009) described in paragraph 2.1. Data is used from nine Dutch Forensic Psychiatric Centers (FPC's), namely: Veldzicht, De Rooyse Wissel, De Woenselse Poort, De Kijvelanden, De Pompestichting, Oldenkotte, Oostvaarders, Hoeve Boschoord, and Dr. S. van Mesdag. The three patients from the case studies in Chapter 3 were treated in Dr. S. van Mesdag, situated in Groningen, the Netherlands. The study in Chapter 5 is conducted in the forensic psychiatric outpatient and day treatment center 'het Dok[9]', situated in Rotterdam, the Netherlands. All studies were conducted independently; the (funding) organizations did not play a role in the design and conduct of the study, the collection, management, analysis and interpretation of the data, or the preparation, review or approval of the research. Taking part in all studies was voluntary. The participating forensic psychiatric patients agreed, by signing a consent form, that their anonymized personal social network data were used for scientific research.

To ensure accurate data, all FSNA data collectors have been followed an intensive FSNA training. Important topics in this training were (1) risk assessment and -management (tools) in forensic psychiatry, (2) related theoretical models, (3) basics of Social Network Analysis (SNA), (4) guidelines of FSNA data collection instrument, (5) analyzing and interpretation of personal network data, and (6) writing a FSNA report. The training consisted of two training days and several follow-up intervision meetings.

9 The name 'het Dok' was changed to 'Fivoor Ambulant' in 2019, however, we use the reference het Dok.

2.7 Definitions

Table 2.6 summarizes the most relevant definitions used in this dissertation.

Table 2.6 Definitions

Definitions	
Social network	A finite set or sets of actors (e.g., individuals) and the relation or relations defined on them (Wasserman & Faust, 1994, p.20).
Personal network	The subnetwork of closer and personal relationships (Van der Poel, 1993) consisting of people with whom the individual has durable and meaningful ties (Hammer et al., 1978) that fulfill his daily life needs" (Baars, 1994; Speck & Attneave, 1973).
Historical personal network (HPN)	The patient's personal social network in the 12 months run-up to the offense(s).
Clinical personal network (CPN)	The patient's personal network in the previous 12 months during forensic psychiatric treatment.
Future personal network (FPN)	The patient's personal network to which the patient will return when he re-enters society.
Network size	The total number of individuals considered as personal network members.
Network composition	The composition of a personal network is defined by the individual characteristics of the forensic psychiatric patient and by the characteristics of his network members.
Network structure	The network structure in a personal network is defined by the characteristics of the relations between the forensic psychiatric patient and his network members and between the network members themselves.
Ties between patient and a personal network member	The existence of a tie between the patient and a network member is defined as the existence of a meaningful contact between these two persons, as perceived by the patient or/and his network member(s).
Ties between personal network members	The existence of a tie between two network members is defined as the existence of a contact between these two persons, as perceived by the patient or/and his network member(s).
Triad	"A subset of three actors and the (possible) tie(s) among them" (Wasserman & Faust, 1994, p.19).
Risk behavior	Risk behavior is understood as all types of behavior that can lead to an (new/repeated) offense.
Risk factors	Any characteristic of a person, his or her environment or situation which may increase the risk of future violent behavior.
Protective factors	Any characteristics of a person, his or her environment or situation which may reduce the risk of future violent behavior (de Vogel, de Ruiter, Bouman, & de Vries Robbe, 2007).
Risk management in the forensic psychiatric context	The process of controlling a forensic psychiatric patient's risk on criminal and violent behavior using a combination of on-going monitoring and evaluations of risk behaviors and situations throughout the patient's treatment and rehabilitation.

CHAPTER 3

A comparison between historical and clinical personal networks in a sample of personality disordered forensic psychiatric patients

This chapter is a slightly revised version of two published research papers:

Ter Haar-Pomp, L., Spreen, M., Bogaerts, S., & Volker, B. (2015). The personal social networks of personality disordered forensic psychiatric patients. Journal of Social Work, 15(3), 254-276 and

Ter Haar-Pomp, L., Spreen, M., Volker, B., & Bogaerts, S. (2019). The impact of forced psychiatric confinement on composition and structure in the personal networks of personality-disordered forensic psychiatric patients. The Journal of Forensic Psychiatry and Psychology, 30(1), 53-75.

3.1 Introduction

The aim of this chapter is to provide insight into the role personal network factors of personality disordered forensic psychiatric patients play in the period 12 months before their offense and during their forensic psychiatric treatment. The idea to compare these two periods is motivated by the early works of Bem and Funder (1978) and Monahan (1981). As described in Chapter 2, Monahan (1981) introduced three steps to assess and compare personal network factors of individuals at different time periods. The first step analyses the environment in which the person acted violently, the second step the environment in which the person is likely to act in future (Bem & Funder, 1978; Monahan, 1981). The third step compares both time periods (Monahan, 1981; Pomp, Spreen, Bogaerts, & Volker, 2010).

This chapter explores the personal networks of 36 male forensic psychiatric inpatients with personality disorders staying in maximum secured forensic psychiatric centers. The focus was on psychiatric patients with personality disorders because of their characteristic maladaptive pattern of cognitions, experiences, and behaviors across contexts. A lack of social skills may lead to misjudgment of social situations and investments in so-called "wrong" relationships. Antisocial personality disorders which are characterized by a pervasive pattern of violence, lack of empathy, impulsive and manipulative behavior are overrepresented in forensic psychiatry (Clifton, Turkheimer, & Oltemans, 2009; Coid, Kahtan, Gault, & Jarman, 1999; Hildebrand & de Ruiter, 2004).

This chapter is divided into four parts. The first section comprises a brief literature review of the current knowledge on personal networks in the forensic psychiatric population. Section 3.3 describes the research method and section 3.4 presents the findings. Finally, section 3.5 contains a discussion of the results.

3.2 Brief literature review on personal network characteristics in forensic psychiatry

This paragraph provides a brief overview of previous research on typical personal network characteristics (network size, composition, and structure) in the forensic psychiatric population.

Network size and network composition. Very little is known about personal network sizes of forensic psychiatric inpatients. Some small studies have found that personal networks of forensic psychiatric inpatients range from 0 to 30 people with an average of

10 people, but the network size largely differs between the inpatients (Greeven, 1997; Pol, 1995).

A growing body of literature has investigated social networks of regular psychiatric patients with mental health problems. Mental disorders are characterized by chronic interpersonal problems (Clifton, Turkheimer, & Oltemans, 2009). People with severe mental health problems have smaller social networks compared to the general population; their network size has been found to range from 4.5 to 13 people, while the general population network size ranged from 20 to 50 (Albert, Becker, McCrone, & Thornicroft, 1998; Hammer, Makiesky-Barrow, & Gutwirth, 1978; Pattison & Pattison, 1981). Feelings of isolation and loneliness are more common in people suffering from a mental illness (Forrester-Jones & Barnes, 2008). They have fewer intimate relationships and fewer friends outside their primary family (Estroff, Zimmer, Lachiotte, & Benoit, 1994). In addition, they are less satisfied with their personal relationships (Nettelbladt, Svensson, Serin, & Ojehagen, 1995). Persons with mental health issues often struggle with a psychiatric stigma. Their behavior related to a mental illness is often seen as socially unacceptable or not understandable (Lee, Lee, Chiu, & Kleinman, 2005; Schulze & Angermeyer, 2003; Wahl, 1999). These factors may cause difficulties and have a detrimental impact on people's mental health problems (Brunt & Hansson, 2002). Consequently, one may assume that forensic psychiatric patients diagnosed with multiple and complex disorders will experience serious problems in building and maintaining stable and protective social personal relationships during their life. In addition, it is likely that committing a severe offense and being incarcerated have negative consequences for building and maintaining a stable personal network.

Compositional network change over time. Forensic psychiatric social network studies on compositional changes in personal networks due to forced forensic psychiatric confinement have not been found. However, in studies of prison and general populations some studies refer to changes in network composition. For instance, intimate relationships of prisoners are often disrupted in detention (Arditti, Lambert-Shute, & Joest, 2003; Kunst et al., 2009; Matejkowski, Caplan, & Wiesel Cullen, 2010). Several studies have shown that prisoners with positive supportive relationships are less likely to reoffend (Bales & Mears, 2008; Brunton-Smith & McCarthy, 2017; Ditchfield, 1994; Hairston, 1991). Studies of general populations have found that the composition of personal networks often change after important life events, such as the transition to parenthood, marriage, divorce, job changes, or widowhood (Kalmijn, 2003; Terhell, Broese Van Groenou, & Van Tilburg, 2007; Wrzus, Hanel, Wagner, & Neyer, 2013). In addition, it is known that family members face also the highest risk of becoming a victim of patients with severe mental disorders (Chan, 2008; Estroff, Swanson, Lachicotte, Swartz, & Bolduc, 1998; Hyde, 1997; Steadman et al., 1998). It can be argued that in cases where the victim was part of pa-

tient's personal network, this may have a detrimental impact on the whole social system involved.

In addition, Gruenberg (1967) stated that individuals who are removed from their natural environment can face the Social Breakdown Syndrome (SBS), a process in which informal relationships outside the institution are replaced by relationships with professionals and patients inside the institution. According to the SBS theory, a person staying in an institution cannot fulfil the expectations of their informal social relationships from outside the institution. This may result in a loss of social relationships (Gruenberg, 1967). There is no empirical data on the forensic psychiatric inpatient population in relation to SBS.

Network structure. Empirical studies on structural (dynamic) factors are also lacking in the forensic psychiatric population. Prison studies found evidence that strong family ties during imprisonment are associated with lower levels of recidivism (Brunton-Smith & McCarthy, 2017; Ditchfield, 1994; Hairston, 1991).

3.3 Method

3.3.1 Sample and procedure

The 36 male forensic psychiatric inpatients described in this chapter, participated in a nationwide personal network pilot project conducted between 2007 and 2010 (Spreen & Pomp, 2009). Inclusion criteria for this project were: (1) DSM-IV[10] diagnoses of *one or more personality disorder(s)* (American Psychiatric Association, 1994) and (2) sentenced to a tbs order for a *violent or sexual offense*. To collect personal network data the FSNA data collection method as introduced in Chapter 2 was applied.

The initial sample consisted of 41 forensic psychiatric patients of whom five did not complete the FSNA interviews because they refused to disclose their network members. The final sample contained 36 adult male forensic psychiatric inpatients of high security forensic psychiatric centers (FPC's) in the Netherlands. All patients were sentenced to a so-called TBS order (see Chapter 1, paragraph 1.2).

3.3.2 Participants

The 36 male patients were from nine FPC's. Background variables were collected from electronic patients' files. Personality disorders were classified according to the criteria

10 A personality disorder diagnosis can never entirely describe the complexity and individuality of a particular person's personality profile (Widiger, 2003). Although DSM is a valuable tool for diagnosing personality disorders, it has been criticized for reasons including standardizing subjectivity, medicalizing personality and behavior, and the resource to (neuro) biology in psychiatry (Pickersgill, 2012).

of DSM-IV (APA, 1994). Participating patients were in different phases of treatment: 8 (22.2%) were in the diagnostic phase, 16 (44.4%) in intramural treatment and 12 patients (33.3%) in the resocialization phase. The average length of stay in the FPC was about 70 months (*SD* = 37, *range* 8 – 152 months). Twenty-three patients were convicted for violent offenses and 13 for sexual offenses. The average first offense age was 24.2 years (*SD* = 7.6, *range* = 14 – 45 years). Seventeen patients (47%) had committed their offense against a stranger. Nineteen patients (53%) knew their victims: acquaintances (6), partners (5), biological children (3), a patient's mother (1), a neighbor (1), and a client of a psychiatric center (1).

Twenty-nine patients (81%) were born in the Netherlands. The mean age at the time of the interview was 39.2 years (*SD* = 7.4, *range* = 27–58 years). Twenty-two patients (61%) had a history of substance use and also a diagnosis on Axis I of the DSM-IV (APA, 1994). Five patients (14%) were diagnosed with a cluster A personality disorder, ten patients (28%) with a cluster B, and 24 patients (67%) with a personality disorder Not Otherwise Specified (PD NOS). Three patients (8%) were diagnosed with dual personality disorders. No patient was diagnosed with cluster C. The background characteristics of the patients are shown in Table 3.1.

3.3.3 Instrument

Data was collected according to the FSNA data collection procedure (Chapter 2).

3.3.4 Variables

Table 3.2 summarizes the network factors that were used to describe the personal networks of the participants in this study.

3.3.5 Analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS) statistical software version 20.0. Frequencies, percentages, means, and standard deviations were calculated. The structure of the personal networks, i.e., the patterns of relations between the patient and his network members and between his network members, was examined according to the triad census method of Kalish and Robins (2006). The proportion of all types of triads expresses the personal network structures (Kalish & Robins, 2006), see for more details paragraph 1.4.

Table 3.1 Background characteristics of the sample

Background characteristics (N=36)	Frequency	Percent
Country of origin		
Netherlands	29	80.6
Other	7	19.4
Age category at the moment of interview		
20-29	2	5.6
30-39	17	47.2
40-49	13	36.1
50-59	4	11.1
Forensic Psychiatric Center		
De Rooyse Wissel	10	27.8
De Pompestichting	7	19.4
Dr. S. van Mesdag	6	17
De Kijvelanden	4	11.1
Hoeve Boschoord	3	8.3
Veldzicht	1	2.8
Oostvaarders	1	2.8
Phases of treatment		
Diagnostic	8	22.2
Intramural Treatment	16	44.4
Rehabilitation	12	33.3
History of substance use		
Drugs	11	30.6
Alcohol	3	8.3
Drugs & alcohol	8	22.2
No history of substance use	14	38.9
DSM-IV Axis II diagnosis*		
Cluster A	5	13.9
Cluster B	10	27.8
PD NOS	24	66.7
Type of offense		
Violent	23	63.9
Sexual	13	36.1
Patient knowing the victim	19	52.7
Core family members	10	27.8
Other family members	1	2.9
Friends	0	0
Others	8	22.2
Patients not knowing the victim	17	47.2
Age category at first offense (N=34)		
10-19	11	32.4
20-29	16	47.1
30-39	6	17.6
40-49	1	2.9

*Three patients were diagnosed with two personality disorders.

Table 3.2 Measurements of the personal network factors

Factor	Variables
Network size	The total number of individuals mentioned as network members
Network roles	• Gender • Core family/other family/friends, and others. Core family members: partner, mother, father, stepmother, stepfather, own children, stepchildren, (half-)sister(s), (half-)brother(s). Other contacts: ex-partner, acquaintances, colleagues, neighbors, club/sport mates, and others.
Network structure:	The patterns of relations between the patient and his network members and between his network members examined according to the triad census method. The proportion of all types of triads expresses the network structures.
Social support	• The total of number of individuals that were listed by patient for social support. Categories: 1. Companionship: (spending time with) 2. Financial (borrowing money) 3. Practical (domestic help) 4. Emotional (seeking advice from, talking when troubled) • The total number of social supporters with risk factors.
Duration	Answer category: '0-1 year', '1-2 years', '2-3 years', '3-4 years', '4-5 years', 'more than 5 years', and 'whole life'.
Frequency	Answer category: 'daily', 'every week', 'every two weeks', 'every month', 'every three months', and 'less frequency'.
Reciprocity	Answer category: 'patient', 'network members', 'both', and 'through others'.

3.4 Results

3.4.1 Network size and composition

Historical Personal Network (HPN). The average HPN consisted of 15 network members (*SD* = 7.6). Patients varied substantially in respect of their network size. The smallest personal network size was 4, while the largest personal network size was 34. The average personal network consisted of seven women and eight men. The average 'core family network' consisted of 4.9 members (*SD* = 2.4), next to an average of 4.0 other family members (*SD* = 4.0). Nineteen percent of the network members were friends: patients listed on average 2.8 friends (*SD* = 3.2) in their personal networks.

Clinical Personal Network (CPN). The average clinical personal social network consisted of 8.5 network members (*SD* = 4.6). A substantially variation in network size was observed, from 0 to 22. The average CPN consisted of 4.3 women and 4.1 men. The average 'core family network' consisted of 3.3 members (*SD* = 1.3), next to an average of 2.2 other fam-

ily members (*SD* = 2.7). Patients listed on average 1.5 friends (*SD* = 2.1) in their personal networks and 1.2 other contacts (*SD* =1.9).

Comparison between HPN-CPN. Table 3.3 shows the change in number and roles of network members between the HPN and CPN. Patients reported in the CPN an average reduction of 6.5 network members (HPN: 15 versus CPN: 8.5). All categories of network roles declined between the two measurements. The CPNs were composed of fewer core family members (HPN 4.9 versus CPN 3.3), fewer other family members (HPN 4.0 versus CPN 2.2), fewer friends (HPN 2.8 versus CPN 1.5*)* and fewer other contacts (HPN 3.1 versus CPN 1.2). The CPNs were composed of fewer female core family members (HPN 2.9 versus CPN 1.9), fewer male core family members (HPN 2.1 versus CPN 1.5), fewer other male family members (HPN 2.0 versus CPN 1.0) and fewer male friends (HPN 2.2 versus CPN 0.9).

Eleven patients mentioned a partner in their CPNs, whereas 27 patients reported a partner in the HPNs. In the HPNs, 13 patients reported that their children were meaningful contacts, while only four of these patients reported the same in the CPNs. Nine patients reported their children only in their HPNs, two patients reported their child(ren) only in their CPNs.

Table 3.3 The number of network members and their roles in HPN and CPN, Means *(M)*, Standard Deviations *(SD)* *(N*=36)

	HPN			CPN			Difference HPN-CPN
	M (SD)	*Min*	*Max*	*M (SD)*	*Min*	*Max*	*M*
Total	15.0 (7.6)	0	34	8.5 (4.6)	0	22	6.5
Female	6.8 (3.1)	0	14	4.3 (2.8)	0	11	2.5
Male	8.4 (5.2)	0	21	4.1 (2.7)	0	11	4.3
Core family members	4.9 (2.4)	0	13	3.3 (1.3)	0	7	1.6
Female	2.9 (1.6)	0	8	1.9 (0.9)	0	4	1.0
Male	2.1 (1.3)	0	5	1.5 (1.0)	0	4	0.6
Other family members	4.0 (4.0)	0	18	2.2 (2.7)	0	12	1.8
Female	2.0 (2.2)	0	9	1.2 (1.8)	0	7	0.8
Male	2.0 (2.0)	0	9	1.0 (1.3)	0	5	1.0
Friends	2.8 (3.2)	0	12	1.5 (2.1)	0	10	1.3
Female	0.6 (1.1)	0	5	0.6 (0.9)	0	3	0.0
Male	2.2 (2.7)	0	10	0.9 (1.5)	0	7	1.3
Others	3.1 (3.5)	0	16	1.2 (1.9)	0	8	1.9
Female	1.1 (1.1)	0	4	0.5 (1.0)	0	5	0.6
Male	2.1 (2.8)	0	12	0.7 (1.2)	0	4	1.4

Patients reported an average of 2.5 new network members in their CPNs (*SD* = 3.3, range 0–13). Four patients reported that they had met one or two personal network members in prison. Nine patients listed one to three forensic psychiatric patients as members of their CPN. On average, 77% of the network members were mentioned in both the CPNs and HPNs.

3.4.2 Network composition: risk factors

HPN. Patients reported the following average number of network members with risk factors in their HPNs: 2.1 network members with criminal antecedents (*SD* = 2.4), 1.3 with psychiatric record (*SD* = 1.8), 2.8 with soft drugs use (*SD* = 3.4), 1.7 with hard drugs use (*SD* = 2.5), 2.6 with alcohol problems (*SD* = 3.6), 2.6 with financial problems (*SD* = 4.0), and 2.0 with problematic lifestyle (*SD* = 2.8) (Table 3.4).

CPN. Patients listed the following average number of network members with risk factors in their CPNs: 1.2 network members with criminal antecedents (*SD* = 1.4), 0.9 with psychiatric record (*SD* = 1.4), 0.9 with soft drugs (*SD* = 1.5), 0.3 with hard drugs (*SD* = 0.7), 0.4 with alcohol problems (*SD* = 0.7), 1.0 with financial problems (*SD* = 1.6), and 0.7 with problematic lifestyle (*SD* = 1.2) (Table 3.4).

Comparison between HPN-CPN. Table 3.4 shows the average change in forensic risk factors in network members between HPNs and CPNs. All risk factors reduced between the two measurements: network members with criminal records from 2.1 to 1.2, with psychiatric help from 1.3 to 0.9, with soft drug use from 2.8 to 0.9, with hard drug use from 1.7 to 0.3, with alcohol problems from 2.6 to 0.4, with financial problems from 2.6 to 1.0, and with another kind of problematic lifestyle from 2.0 to 0.7.

Table 3.4 The number of network members with forensic risk factors in HPN and CPN, Means *(M)*, Standard Deviations *(SD)* (*N*=36)

	HPN			CPN			Difference HPN-CPN
	M (SD)	*Min*	*Max*	*M (SD)*	*Min*	*Max*	*M*
Criminal record	2.1 (2.4)	0	9	1.2 (1.4)	0	5	0.9
Psychiatric help	1.3 (1.8)	0	7	0.9 (1.4)	0	5	0.4
Soft drugs	2.8 (3.4)	0	16	0.9 (1.5)	0	7	1.9
Hard drugs	1.7 (2.5)	0	9	0.3 (0.7)	0	3	1.4
Alcohol problems	2.6 (3.6)	0	17	0.4 (0.7)	0	3	2.2
Financial problems	2.6 (4.0)	0	21	1.0 (1.6)	0	6	1.6
Problematic lifestyle	2.0 (2.8)	0	9	0.7 (1.2)	0	5	1.3

3.4.3 Network structure: social support

HPN. In the HPNs, an average patient received from about 7.5 network members (*SD* = 6.7) companionship support of which 3.2 (*SD* = 2.4) had risk factors. The average number of financial supporters (they lent the patient money) was 2.4 (*SD* = 3.0), of which 1.3 (*SD* = 2.0) had risk factors. The average number of practical supporters was 5.8 (*SD* = 5.1) including 2.2 (*SD* = 2.1) with risk factors. Patients mentioned on average 3.5 (*SD* = 3.6) network members whom they asked for advice including 1.6 (*SD* = 1.6) with risk factors. Patients listed on average 3.3 network members (*SD* = 4.0) with whom they discussed their personal matters with, including 1.5 (*SD* = 1.8) with risk factors. Large differences were observed between individual patients. For instance, the lowest number of the companionship supporters was 0 and the highest number was 30.

Seventeen (47%) patients reported that they asked one or more network members for help, just before their committed crime(s). Twenty-nine (81%) patients listed one or more stressful relationships with their network members. Patients listed on average 3.3 (*SD* = 3.7) stressful relationships in their HPNs.

CPN. In the CPNs, an average patient received companionship support from 6.9 (*SD* = 4.4) network members of which 3.2 (*SD* = 2.4) network members with risk factors. The average number of financial supporters was 0.1 (*SD* = 3.0), including 0.1 (*SD* = 0.5) network members with one or more risk factors. The average number of practical supporters was 5.4 (*SD* = 3.3) including 1.7 (*SD* = 1.8) with risk factors. Patients listed on average 4.9 (*SD* = 3.6) network members whom they asked for advice including 1.5 (*SD* = 1.5) with risk factors. Patients listed on average 3.9 network members (*SD* = 3.7) with whom they discussed their personal matters, including 1.4 (*SD* = 1.5) with risk factors. Focusing on future situations, when patients are afraid to get into trouble, patients mentioned about 3.8 network members (*SD* = 3.0) who they may ask for help.

Comparison between HPN-CPN. Table 3.5 shows the differences in the total amount of social support between the HPNs and CPNs, subdivided into social network members with forensic risk factors. In the CPNs, patients reported a reduction of financial supporters, from 2.4 to 0.1. The number of financial supporters with forensic risk factors also decreased, from 1.3 to 0.1. Patients reported an increase in the number of people who they will ask for help when they were afraid of getting into trouble. In the HPNs, patients reported about 1.6 people (*SD* = 2.6) who they asked for help; in the CPNs this number increased to 3.8 people (*SD* = 3.0). The number of network members with risk factors increased, from 0.8 to 1.4. The number of companionships, practical or emotional support are almost similar in both time periods.

Table 3.5 Patient's social support networks (companionship, financial, practical, and emotional support) and their forensic risk factors in the HPNs and CPNs. Means *(M)*, Standard Deviations (*SD*) (*N*=36)

	HPN			CPN			Difference HPN-CPN*
	M (SD)	*Min*	*Max*	*M (SD)*	*Min*	*Max*	*M*
Number of companionship supporters	7.5 (6.7)	0	30	6.9 (4.4)	0	18	0.6
Number of these contacts with forensic risk factors	3.2 (2.4)	0	10	1.9 (2.1)	0	7	1.3
Number of financial supporters	2.4 (3.0)	0	15	0.1 (0.7)	0	4	2.3
Number of these contacts with forensic risk factors	1.3 (2.0)	0	7	0.1 (0.5)	0	3	1.2
Number of practical supporters	5.8 (5.1)	0	20	5.4 (3.3)	0	16	0.4
Number of these contacts with forensic risk factors	2.2 (2.1)	0	8	1.7 (1.8)	0	6	0.5
Number of supporters, patient asked for advice	3.5 (3.6)	0	12	4.9 (3.6)	0	17	**1.4**
Number of these contacts with forensic risk factors	1.6 (1.6)	0	6	1.5 (1.5)	0	5	0.1
Number of network members patient discusses his personal matters with	3.3 (4.0)	0	16	3.9 (3.7)	0	20	**0.6**
Number of these contacts with forensic risk factors	1.5 (1.8)	0	6	1.4 (1.5)	0	6	0.1
Number of personal network members who the patient will ask for help when he is afraid to get into trouble	1.6 (2.6)	0	11	3.8 (3.0)	0	13	**2.2**
Number of these contacts with forensic risk factors	0.8 (1.5)	0	5	1.4 (1.9)	0	8	**0.6**

Bold numbers: the average number of network members is increased from HPN to CPN.*

3.4.4 Network structure: duration, frequency, and reciprocity

HPN. Seventy-two percent of the patient-network member relationships at the time of the offense lasted five years or more. On average, a third of the network members has known patients their entire life. Sixty-eight percent of the relationships was characterized by a daily or at least weekly contact frequency. Patients mentioned on average that 67% of the personal relationships were based on reciprocity. In addition, patients listed

on average 24% personal relationships in which patients took the initiative to contact the network member.

CPN. Eighty-one percent of the relationships between the patients and their network members in the CPNs were longer than five years or more. On average, patients have known 31 percent of the network members in their CPNs their whole life. Thirty-two percent of the relationships was characterized by a daily or at least weekly contact frequency. Patients considered 69% of the personal relationships as reciprocal. In addition, patients listed on average 28% personal relationships in which patients took the initiative to contact the network member.

Comparison between HPN-CPN. Table 3.6 shows decreases in contact duration, frequency, and reciprocity between HPNs and CPNs. The CPNs contained fewer network members with whom patients had a contact duration of '1–2 years' (from 1.2 to 0.3), '2-3 years' (from 0.7 to 0.4), '3-4 years' (from 1.0 to 0.4), '4–5 years' (from 0.8 to 0.3), 'more than 5 years'(from 7.0 to 4.3) and 'whole life' (from 3.9 to 2.7). The patients reported on

Table 3.6 Means *(M)*, Standard Deviations *(SD)* of the studied variables *(N*=36)

	HPN			CPN			Difference HPN-CPN*
	M (SD)	***Min***	***Max***	***M (SD)***	***Min***	***Max***	***M***
Duration							
0-1 year	0.6 (1.3)	0	6	0.2 (0.6)	0	3	0.4
1-2 years	1.2 (2.1)	0	8	0.3 (0.7)	0	3	0.9
2-3 years	0.7 (1.5)	0	6	0.4 (1.0)	0	4	0.3
3-4 years	1.0 (2.2)	0	9	0.4 (0.7)	0	3	0.6
4-5 years	0.8 (1.2)	0	5	0.3 (0.9)	0	5	0.5
More than 5 years	7.0 (6.0)	0	26	4.3 (3.6)	0	16	2.7
Whole life	3.9 (3.1)	0	17	2.7 (2.1)	0	10	1.2
Frequency (*N*=35)							
Daily	4.3 (3.2)	0	12	0.9 (1.4)	0	5	3.4
Every week	6.1 (4.6)	0	17	1.8 (1.9)	0	7	4.3
Every 2 weeks	0.9 (1.2)	0	4	1.4 (2.0)	0	8	**0.5**
Every month	1.7 (3.1)	0	16	1.7 (1.6)	0	6	0.0
Every 3 months	1.0 (1.9)	0	8	1.4 (2.6)	0	12	**0.4**
Less frequently	1.3 (2.3)	0	9	1.3 (2.1)	0	8	0.0
Reciprocity							
Patient	3.6 (4.4)	0	18	2.1 (2.4)	0	8	1.5
Network member	0.6 (1.7)	0	8	0.3 (0.9)	0	4	0.3
Both	10.0 (7.7)	0	31	5.9 (4.7)	0	20	4.1
Through others	0.8 (1.8)	0	7	0.2 (0.7)	0	3	0.6

Bold numbers: the average number of network members is increased from HPN to CPN.*

average a decrease in 'daily' contact frequency (from 4.3 to 0.9) and 'every week' (from 6.1 to 1.8). Similarly, reciprocity in personal relationships decreased. The CPNs contained fewer relationships in which patients took the initiative to contact a network member (from 3.6 to 2.1), fewer relationships in which both patients and their network member took the initiative (from 10.0 to 5.9) and fewer relationships in which 'others' maintained the contact (from 0.8 to 0.2).
An additional question, related to the content of the relationships between patients and their network members, was whether patients experienced tensions/conflict in their relationships. Patients listed an average of 3.3 (*SD* = 3.7) stressful relationships in the HPNs and 1.2 (*SD* = 2.2) in the CPNs. In addition, the number of these contacts with risk factors decreased in this period from 1.7 (*SD* = 2.2) to 0.6 (*SD* = 1.0).

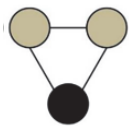
3.4.5 Network structure: total personal network structure

Table 3.7 displays the proportions of each type of triad in the HPNs and CPNs as defined in Chapter 1. As mentioned in paragraph 1.4, each classified type of triad can be interpreted in terms of risk vulnerability depending on the individual situation.
HPN. Patients had a proportion of about .47 open and .53 closed triads. Triad 4 (lowest risk) was most common in the HPNs (.26). Triads 1 (low risk), 2 (moderate risk) and 5 (moderate risk) were approximately equal in proportion: .17 to .20. Triads 3 (high risk) and 6 (highest risk) were least common and were approximately equal in proportion: .09 and .10.

CPN. During hospitalization patients had a proportion of about .33 open and .68 of closed triads. Triad 4 (lowest risk) was most common in the CPN (.37). Triads 1 (low risk) and 2 (moderate risk) were approximately equal in proportion (triad 1: .15, triad 2: .14). Triads 3 (high risk) and 6 (highest risk) were least common (triad 3: .04, triad 6: .07).

Comparison between HPN-CPN. The proportions of Triads 1 (low risk), 2 (moderate risk), 3 (high risk) and 6 (highest risk) decreased between the two-time domains. The proportion of type 4 triad (lowest risk) increased from .26 (*SD* = .23) to .37 (*SD* = .31). Type 4 triad expresses network structures that are supposed to be most protective against the risk of relapse. For example, if triad 4 consists of individuals who support the patient (e.g., by reminding him to take medications), this may lower the patient's future risk of recidivism. A small proportion of triad 6 was found in both personal networks, namely .10 (HPN) and .07 (CPN). From risk management perspective, it would be preferable to have a low percentage of type 6 triads in the CPNs. This may give patients a better chance of leading a crime-free life because 'antisocial associates' is one of the main predictive social factors of criminal recidivism (Akers, 1998; Andrews & Bonta, 1994; McCarthy & Hagan, 1995). For example, if a CPN contains individuals with many forensic risk factors with ties to each other, it would be hard for the patient to avoid getting involved in their

Table 3.7 Average personal network structures in six different triads in the HPNs and CPNs

		HPN			CPN			Difference HPN-CPN*
		M (SD)	*Min*	*Max*	*M (SD)*	*Min*	*Max*	*M*
Triad 1 Alters not connected No Risk – No Risk Vulnerability to risk: low		.18 (.19)	.00	.69	.15 (.21)	.00	.80	.03
Triad 2 Alters not connected Risk - No Risk Vulnerability to risk: moderate		.20 (.12)	.00	.44	.14 (.16)	.00	.47	.06
Triad 3 Alters not connected Risk – Risk Vulnerability to risk: high risk		.09 (.13)	.00	.50	.04 (.07)	.00	.23	.05
Triad 4 Alters are connected No Risk – No Risk Vulnerability to risk: lowest risk		.26 (.23)	.00	1.0	.37 (.31)	.00	1.00	**.11**
Triad 5 Alters are connected Risk - No Risk Vulnerability to risk: moderate		.17 (.12)	.00	.41	.24 (.24)	.00	1.00	**.07**
Triad 6 Alters are connected Risk – Risk Vulnerability to risk: highest risk		.10 (.12)	.00	.71	.07 (.13)	.00	.56	.03

**Bold numbers: the average proportion of this triad is increased from HPN to CPN.*

risk inducing behaviors. As argued in paragraph 1.4, it should be noted that even a triad classified as 'protective' may pose a high risk in an individual case. The same also applies to the defined 'risk' triads.

3.5 Discussion and future directions

The aim of the study was to explore to what extent the composition and structure of personal networks in a sample of personality-disordered forensic psychiatric patients change between the time of the offense (HPN) and inpatient treatment in forensic psychiatric centers (CPN). The study is relevant considering the limited understanding of the dynamics in personal networks of forensic psychiatric patients. Personal network information over time may help forensic mental health professionals to properly assess and manage important dynamic personal network factors that are associated with recidivism and may lead to effective social network interventions.

Conclusion HPNs. This study found an average network size of 15 people in the HPNs, which is considerably smaller compared to a general population (an average of 25 people, Albert et al., 1998). The largest part of an average network in this study consisted of family members and this is similar to the findings from some small previous Dutch forensic psychiatric studies (Ellenbroek, 2000; Greeven, 1997; Pol, 1995). A slight majority of the patients' victims knew the patient. Family members were the most likely victims of the patients. Most patients had contact with one or more network members with criminal records at the time of their offenses, but remarkably their personal networks mainly consisted of network members without forensic risk factors. Most patients received social support, but almost half of the social supporters had risk factors (criminal record, psychiatric problems, drug use, and etcetera). Patients had, on average, four network members for asking advice. This finding is almost equal to a general population study (3-5 individuals; Dunbar & Spoor, 1995; Knipscheer & Antonucci, 1990). The social relationships between patients and their network members were characterized by a duration of five years or longer, a regularly contact frequency (daily or once a week) and based on reciprocity. From literature, it is known that long lasting contacts, based on trust and reciprocity, give more guarantees for maintaining these relationships in the future (Milardo, 1986). Our findings indicate that most patients were capable to have stable and intimate relationships in the period before the offense(s). This opposes findings which indicate that persons with personality disorders have chronic interpersonal problems (Clifton et al., 2009) and unable to maintain social relationships (Estroff et al., 1994). Nevertheless, most of patients studied, had one or more stressful relationship(s) in their HPNs. This is more consistent with findings on the relational difficulties of people with psychological disorders (Savard et al., 2006).

Conclusion HPNs-CPNs. During treatment, the size of the patients' personal networks decreased. Various factors may have played a role in this reduction, such as limited visiting arrangements, geographic distance between the forensic psychiatric centers and family residences, security procedures and feelings of shame (Wolff & Drained, 2004).

Most participants in this sample committed their offense against family members or acquaintances. This is consistent with earlier findings (Estroff & Zimmer, 1994; Estroff, Swanson, Lachicotte, Swartz, & Bolduc, 1998; Grubin, 1998). It is likely, that committing a crime in the personal domain has a major impact on all personal network members involved. For instance, in cases where patients' network members have lost someone they loved, they may have ended their relationships with the patient due their feelings of anger, blame or fear.

A decrease in all sub networks was observed (core family members, other family members, friends, and other contacts). Family members remained the largest subgroup in the CPNs. Prison studies provide empirical evidence that prisoners who have access to higher levels of support from family members have better re-entry outcomes (e.g., Brunton-Smith & McCarthy, 2017; Ditchfield, 1994; Hairston, 1991). Most family members in the clinical networks were already present in the historical networks. It is important for risk management and treatment purposes to examine whether these family members will have either a prosocial or antisocial influence on the behavior of a patient during and after forensic psychiatric treatment.

During treatment, patients reported fewer contacts with high risk people compared to their HPNs. A possible explanation could be that patients have ended contact with network members with forensic risk factors. For example, treatment goals and interventions may have focused on ending social relationships with high risk network members. However, another explanation is that patients may be withholding relevant information. They may fear that disclosing their relationships with high risk network members will have an adverse effect on their length of stay in the forensic psychiatric center. It is important to establish the underlying motives because it is well-established in the literature that high risk network members are negative for patients' opportunities to live a crime-free life after inpatient treatments. For instance, Hilterman (1999) found that recidivists in the probation phase have more deviant acquaintances than non-recidivists.

A small portion of CPNs contained new personal relationships, mostly formed with individuals outside the forensic psychiatric center. Most patients had (un)supervised leaves, which may have given them opportunities to start contact with people outside the forensic psychiatric center.

In this study, patients identified fewer financial supporters in their CPN than in their HPN. However, they reported more supporters to cope with problems in their CPN. The number of supporters who provided companionship, practical and emotional support were almost the same in both periods. This suggests that the core of the personal networks remains stable. These findings have important implications for patients' op-

portunities to re-integrate successfully in the community, because social support is associated with lower recidivism rates (Douglas, Hart, Webster, & Belfrage, 2013; Spreen, Brand, Ter Horst, & Bogaerts, 2014; de Vogel et al., 2007).

Compared to HPNs, patients' relationships in CPNs were of shorter duration, less frequent and less reciprocal. The reduction may be an indication of an unwillingness among network members to support the patient. It is known that a person's willingness to support the other is usually associated with the intensity of the social relationship (Van der Gaag, 2005) and depends on previous investment in the relationship (shadow of the past), and the anticipated value of the relationship in future (shadow of the future) (Flap, 2004).

Patients reported fewer stressful relationships in their CPNs. The reduction of the number of stressful relationships in the CPNs can be understood as positive in relation to a patient's risk of recidivism. From literature, it is known that stress affects the stability of social relationships (Randal & Bodenmann, 2009). Moreover, conflicts and stress within relationships elevate the risk of violence (Estroff & Zimmer, 1994).

The network structures of patients' networks were described using the triad census method (see paragraph 1.4). The most common triad in both networks was the one in which two network members without forensic risk factors were connected to each other (vulnerability to risk: lowest risk compared to the other five triads). Triads with two high risk network members were defined as most undesirable (triads 3 and 6). In the CPNs, these triads were the least common triad. The number of closed triads with two no-risk members increased between HPN and CPN. In the CPNs, patients identified fewer open triads in which one or both network members had risk factors. These findings can be considered positive for patients' re-entry chances. It is expected that higher levels of interaction between protective network members provide more opportunities to positively influence other members and the patient (Haynie, 2001).

This study is, to the knowledge of the authors, one of the first that focuses on personal network factors in a forensic psychiatric setting. In general, our results indicate that the characteristics of relationships in the forensic psychiatric population, such as reciprocity and social support, are quite similar to the general population. Interestingly, only a small portion of the network members had criminal records or other risk factors. The differences seem to be the lower network size and that almost half of their social supporters had risk factors.

In the general population personal relationships are often far from stable and can change within a couple of years (Degenne & Lebaux, 2005; Mollenhorst, 2009; Wellman,

Wong, Tindall, & Nazar, 1997). Future research should focus on network changes over time: does the patient get new relationships? Which network member is still part of the patient's network? The reasons why patients have committed their crimes despite a reasonable protective social support system are still not clear and require further investigation. For some patients, a larger personal social network may provide more criminal opportunities. Also, it is well known that patients who have received forensic psychiatric treatment, experience double stigmatization during reintegration, because they are viewed as individuals with both a psychiatric as well as a criminal background (e.g., Adshead, 2012, Drennan & Wooldringe, 2014; Schultz, 2014). It is important to create sufficient possibilities to empower forensic psychiatric patients to do meaningful suitable social activities and to form protective (in-)formal social support systems around them.

The study participants committed their offenses years before this personal network research took place, and they may have forgotten important network details, which could be a limitation of this study. Ideally, data should be collected soon after the patient's arrest. The sooner protective and risk factors in the patients' personal networks are identified, the sooner interventions can be implemented.

Personal network data are dependent of self-reports, which may lead to validity problems. Patients listed the people who, in their view, formed their personal networks. It is possible that patients consciously withheld information, especially about high risk network members (fearing e.g., the possible impact on the likelihood of their release). Although we compared the patients' interview data with other available network data (patients' files and network interviews), it was left up to the patients to make a final decision on changing their social network data. However, a major advantage of self-reporting is that it allows us to map a network in compliance with the patient's own experiences and wishes.

It is important to mention that earlier research found that people's perceptions of their personal networks are influenced by personality factors (Casciaro, Carley, & Krackhardt, 1999; Clifton, Pilkonson, & McCarty, 2007). Clifton et al. (2007) found that clinical patients with borderline personality disorder (BPD) did not discriminate among members of their network. The authors assume that individuals with BPD have difficulty identifying appropriate sources of social support (Clifton et al., 2007). Possibly, patients' personality disorders may have influenced the findings in this study.

Average change across a restricted sample of 36 forensic psychiatric patients was explored and substantial variation among patients was found. For instance, some individuals experienced small changes in their networks, others experienced large ones.

Therefore, it is important to focus especially on the rate of individual changes over time: certain social conditions may increase the probability of violence for one individual, but decrease this probability for an individual of another personality type (Monahan, 1981). In addition, more qualitative data are needed to ensure deeper knowledge and understanding of why patients have maintained, started, or ended certain relationships.

Social network size is strongly dependent on the data collection process. In this study, there was a limit of 40 individuals who could be considered as network members. In contrast, Dunbar (1993) suggested that people have a theoretical limit of 150 people with whom stable social relationships can be maintained.

The participants were in different phases of psychiatric treatment. For patients in the first phases of treatment (un)supervised telephone contact and personal contacts in the forensic psychiatric center were limited. Patients with (un)supervised leaves are allowed to visit network members outside the forensic psychiatric center. Future social personal network studies should distinguish between different treatment phases.

Due to the explorative nature of this research, the study population was small and not representative: it included only male forensic psychiatric patients with DSM-IV diagnoses of one or more personality disorder(s) (American Psychiatric Association, 1994) who had been convicted for violent or sexual offenses. Future research should examine whether the findings of this study is representative for the larger forensic psychiatric population. It would be of empirical interest to analyze possible differences in personal network characteristics between patients with other kinds of mental disorders who have committed crimes other than violent or sexual offenses.

CHAPTER 4

Three case studies in forensic psychiatric inpatients

The three case studies are part of the following published research papers:

Kremer, S., & Pomp, L. (2012). Do we (have to) care, or just say 'beware'? Relational ethics and relational research in forensic psychiatry: two birds with one stone? Progression in Forensic Psychiatry: About Boundaries. In. K. Oei, & M. Groenhuijsen, Kluwer.

Pomp, L., Spreen, M, Bogaerts, S. & Volker, B. (2010). The role of personal social networks in risk assessment and management of forensic psychiatric patients. Journal of Forensic Psychology Practice, 10(4), 267-284.

Ter Haar-Pomp, L., Bogaerts, S., & Spreen, M. (2016). Risk management in the forensic psychiatry: Integrating a social network approach. In M. Cima (Ed.), The Handbook of Forensic Psychopathology and Treatment (pp. 337-351). New York: Routledge.

4.1 Introduction

In this Chapter, our personal network approach is illustrated by three case studies of forensic psychiatric inpatients who have received a TBS-order and are treated in FPC Dr. S. van Mesdag, situated in Groningen, the Netherlands. In each case study, the data collection method FSNA, as described in Chapter 2, has been applied to be able to answer the three basic personal network questions for forensic psychiatric patients, as introduced in Chapter 2. The case studies are meant to describe and illustrate the supporting role personal networks might play in daily risk assessment and -management procedures. To better understand the personal network effects on individual (risk) behavior, we explore the collected personal network data with the forensic social network perspective in mind as referred to in Chapter 1. Data for the case studies are extracted and collected from the patient's administrative file, perspectives from the patient himself, some of his network members and some members of the forensic psychiatric treatment team. All three patients have given written consent to publish their stories anonymized. Some information is modified to preserve the anonymity of the participants. The three case studies are structured by the topics of the FSNA step-by-step-report as described in paragraph 2.4).

4.2 Case study 1: Dave

This case is about a patient with the fictive name 'Dave'. At the start of the case study, Dave was in the rehabilitation phase of his tbs-treatment.

Treatment goal. The treatment team asked forensic social work to provide a deeper view of Dave's personal network factors that are associated with his medicine compliance, his criminal oriented attitudes, and his sexual oriented behavior. The forensic social worker applied the FSNA data collection instrument.

The extent to which patient and network members cooperated. Dave was invited for a FSNA study. He expressed his willingness to cooperate in the study. Three network members were selected according to the FSNA selection procedure (paragraph 2.2) and invited for an interview (see for more details 4.2.2). All were willing to participate in the study.

General background information

Life History. Dave was born in Surinam. At a young age, he moved with his parents and his stepsisters to the Netherlands. His parents got divorced after some years; the mother took the children into her care. After being an average student in primary school, Dave did well in the first years of secondary school. However, at the age of 15, his behavior changed. He became aggressive toward his mother and committed several robberies together with some friends. His mother thought that her son's behavior was influenced by "evil spirits". School appeared no longer to be important. Dave did not attend school any longer and tried to get a job, but without success. He decided to live on his own, despite a lack of income. Some months later, Dave had an outburst of aggressive behavior on the streets. His neighbors called the police. Dave was admitted to a psychiatric hospital and was diagnosed with schizophrenia. Dave took his medication and became less aggressive. After a while, he got a new house, but after a very short time he was evicted for not paying his rent. Dave stopped taking his medication. He moved in with his mother again. He was living for some weeks again with his mother, but she did no longer tolerate his inappropriate behavior. Dave chose to live on the streets. Dave visited prostitutes, used drugs and started a "relationship" with a girl who also was homeless. Dave was in contact with several friends who lived on the streets. They "earned" their money from street robberies and selling drugs.

TBS-offense. Dave committed several robberies together with his friends. His drug use worsened the symptoms of schizophrenia, such as delusions of grandeur. Dave committed in the same period several physical assaults by aggressively correcting random people on the street. In his perspective, these persons were behaving inappropriate. His corrections consisted of beating these individuals. Dave was arrested and received the TBS-order.

4.1.1 Basic personal network question 1

Which network members/personal relationships are supposed to have a risk-increasing and/or a risk-reducing (protective) influence on patient's behavior in the run-up to the crime? (HPN)

Historical Personal Network (HPN). According to Dave his HPN consisted of his mother, a girlfriend, and four friends. An overview of the social network characteristics at the moment of the crime (HPN) is shown in Table 4.1. No additional information about HPN was provided by Dave's network members.

Table 4.1 HPN characteristics (according to the patient)

Role	Duration of contact	Occupation	Frequency of contact	Initiative in contact	Risk factor	Social support
Mother	Dave's entire life	None	Once a week	Mutual	Non	Practical
Girlfriend	One month	None	Every day	Mutual	Drug-usage, problematic way of living	Emotional, practical, financial
Friend	Five years	None	Every day	Mutual	Drug-usage, criminal record, problematic way of living	Emotional, practical
Friend	Four years	None	Every day	Mutual	Drug-usage, criminal record, problematic way of living	Emotional, practical
Friend	One year	None	Every day	Mutual	Drug-usage, criminal record, problematic way of living	Emotional, practical
Friend	Six months	None	Every day	Mutual	Drug-usage, problematic way of living	Emotional, practical

Table 4.1 shows that Dave's HPN relationships were characterized by differences in duration (from entire life to six months). According to Dave he regularly contacted (once a week to every day) all network members. His girlfriend and four friends were listed with risk factors. Dave listed his friends and girlfriend as practical and emotional supporters, and his mother solely as practical supporter. Financial and companionship supported were not listed.

As described in Chapter 2, patients were asked if network members knew each other in patient's offense period and if so, how well they knew each other. Figure 4.1 shows Dave's perceived ties between his personal network members during the period when he committed his offenses. Dave only listed ties between his friends. Network members without forensic risk factors are presented by white nodes; network members with one or more forensic risk factors are presented as grey nodes (these are people who had a criminal record, psychiatric record, drug use, alcoholism and/or problematic way of living).

The main network structure has elements of all three introduced theoretical network structures in paragraph 1.4. Dave is the link between three subdomains, namely his friends, girlfriend and his mother (crosscutting structure), his subnetwork with friends is characterized by a high density (closed network structure) and his mother and girlfriend

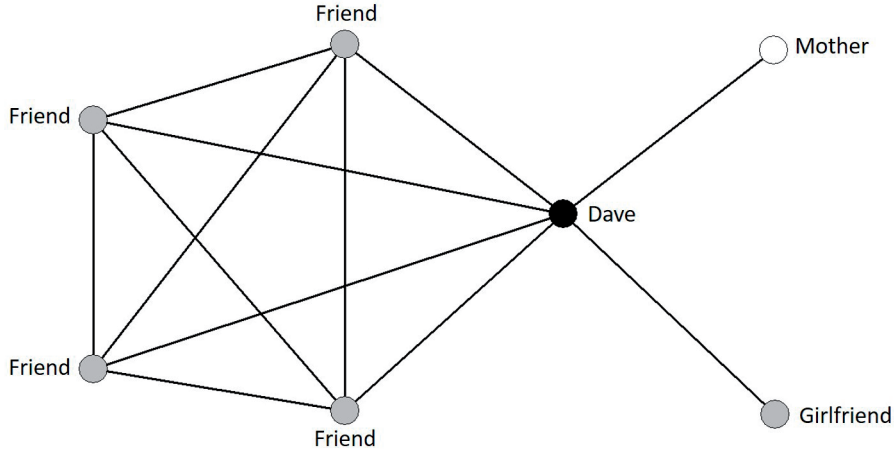


Figure 4.1 Illustration of Personal Network in the run-up to the Crime (HPN)

are isolated from the other personal network members (structural holes, spoke structure). In line with our presented implications in Chapter 1 (see paragraph 1.4), it is likely that being part of the above network configuration has the following consequences[11] for Dave's behavioral outcomes:

- Social influence (-). Dave was influenced by all actors. Dave saw his friends and girlfriend on a daily basis. The members of the subnetwork 'friends', including Dave, behaved according to the (criminal-oriented) values and norms of this group. Furthermore, Dave was living together with his girlfriend on the streets. They both had no legal source of income and were both using drugs. Dave's mother was listed without the defined forensic risk factors. However, she had a non-supportive attitude towards medicine compliance due to her believe that her son's behavior was caused by "evil spirits". In addition, her influence on her son was limited, because he valued the opinions of his friend and girlfriend more.
- Social capital (-). The relationship duration differed: from Dave's entire life (mother) to one month (girlfriend). Based on the mentioned literature in Chapter 1, we have established that the willingness of a network member to support the other is usually associated with the intensity of the social relationship (Van der Gaag, 2005), and depends on the previous investment in this relationship (the shadow of the past), and the expected value of the relationship in the future (the shadow of the future) (Flap, 2004). From this perspective, it is likely that the relationship with mother was and will be the most stable over time. Although, we do know from Dave's interview - that in the run-up to his crimes - he valued his social capital from his friends (e.g., status, criminal capital, drugs) and girlfriend (e.g., sexual arousal and drugs) more than the relationship with his mother.

11 (+) = positive impact, (-) = negative impact, and (+/-) = both positive and negative impacts.

- Social support (+/-). There was - within the subgroups friends - a reasonably stable social support system (Dave perceived emotional and practical support). Dave's relationship with his girlfriend came with emotional and practical support, but Dave mentioned that their relationship was especially focused on his sexual needs. The relationship with his mother was weakened, because he was not living with her anymore in the run-up to the crimes. He perceived limited social support from her.
- Social control (-). The personal network was partially fragmented, therefore, not all personal network members were visible for each other. No one was monitoring Dave's medicine compliance. Dave's friends and girlfriend were not informed about his mental illness and the importance of medicine compliance. Dave's own lack of insight about his mental illness and the importance of taking medicines in combination with his mother non- supportive attitude towards medicine compliance, manifested themselves in the period preceding Dave's crimes: no protective informal social support and control options were available. In addition, formal social control options also lacked in the run-up to the crime, such as the support of mental health professionals.

4.2.1 Basic personal network question 2

Which types of network members/personal relationships are more likely to have a risk-increasing and/or a risk-reducing (protective) influence on patient's behavior in current and future social situations? (CPN and FPN)

Clinical Personal Network (CPN)/Future Personal Network (FPN). According to Dave, he still had contact with his mother and two of his HPN friends. Dave also mentioned a new girlfriend as part of his CPN. Dave did not mention personal friendships with other patients. He explained during the interview that he was a better person and had more skills than the other patients. Dave stated that he believed he could improve the world. He loved expensive clothes and wanted to be a macho man. Focusing on his future "return" network (FPN), Dave did not expect any changes. An overview of the social network characteristics of Dave's current and future situation are shown in Table 4.2.

Table 4.2 shows that Dave's CPN/FPN consisted of three long-lasting relationships (mother and two friends) and one new relationship (girlfriend). Dave mentioned that the quality of his friendship with his friends did not change between his HPN and CPN. Their current friendship was as intense as during his crime period.

Dave's girlfriend and the two friends had a job, his mother was retired. At the time of the interview, one of Dave's friends earned his money in the sex industry, the other worked in a coffeeshop (Dutch shops selling soft drugs).

Forensic psychiatric treatment background information

Diagnosis. Dave was diagnosed with schizophrenia. Symptoms were "delusions of grandeur" (believing that he had special abilities and powers) and "delusions of reference" (believing that random events, objects, behaviors of others in his environment were directly related to him).

Clinical treatment information of last 12 months. At the beginning of his tbs-treatment, Dave kept using drugs, but lately his urine samples were clean. However, Dave mentioned several times that he was still considering to take drugs. Dave enjoyed working a few days a week in the forensic psychiatric treatment center and was adequately performing at his work. One of the established treatment goals, was to improve Dave's compliance to his medicines. At the time of the personal network research, Dave voluntarily took the subscribed medication. Nevertheless, the multidisciplinary team doubted whether Dave would continue to take his medication when getting more liberties. In the last months, Dave's leaves were unsupervised with a frequency of two times per week. Lately, the team discovered that - without pervious permission - Dave sometimes visited prostitutes during his leaves. After he was confronted with this situation, he objected that his decisions to visit prostitutes were spontaneous. The treatment team also observed that Dave corrected other patients' behaviors, sometimes in a (non-) verbal aggressive way. It appeared that Dave felt superior to the other patients.

Table 4.2 Social network characteristics of CPN and FPN (perception patient)

Role	Duration of contact	Occupation	Frequency of contact	Initiatives in contact	Risk factors	Social support	Future contact (FPN)
Mother	Dave's entire life	None, pensioned.	Two times a week	Mutual	None	Emotional, practical	Yes
Girlfriend	Four months	Hairdresser	Every day	Mutual	Psychiatric problems	Emotional, practical	Maybe
Friend	Ten years	Working in the sex industry	Once a week	Dave	Criminal record	Emotional, practical, financial	Yes
Friend	Nine years	Working in a shop selling small quantities of soft drugs	Once a week	Dave	Drug-usage, criminal record	Emotional, practical	Yes

Dave stated that he had frequently contact with his personal network members (once a week to every day) and that he was satisfied with his current network.

The two friends and girlfriend were listed with multiple risk factors: psychiatric problems (girlfriend), criminal record (both friends), drugs-usage (one friend).

Dave listed two reciprocal relationships (with his mother and his girlfriend). Although, focusing on his two friends, Dave was the one who took the initiative.

All personal network members were listed as social supporters (practical, emotional, and/or financial; companionship support was not listed). Dave was not certain if his current girlfriend would be part of his future personal network. Reciting Dave: "The three others are definitely part of my future life".

Dave's girlfriend was married. Dave did not show an evident emotional attachment to this woman during the FSNA interview. The relationship again appeared to be primarily focused on his sexual needs.

Dave was asked to give his perception of his current and future relations between his personal network members. Dave did not distinguish any ties between the mother and the girlfriend, the mother and the friends, and the girlfriend and the friends. Dave listed identical personal network structures for his CPN and FPN. Figure 4.2 shows Dave's CPN and FPN network.

Based on Dave's provided FSNA data, the forensic social worker decided to invite Dave's mother (domain: family), his new girlfriend (domain: partner), and one of his friends (domain: friends) for an interview. The selected network members were willing to participate. Additional questions were asked in the interviews to investigate how these network members assessed Dave's judgment of his ability to stay out of crime (see

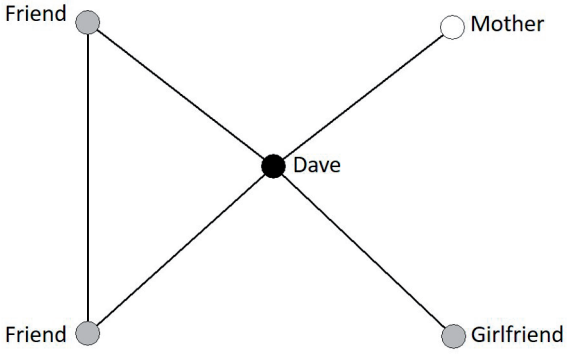


Figure 4.2
CPN and FPN according to Dave

Chapter 2). To detect other significant social relationships not mentioned by Dave, each network member was asked to mention individuals who they thought to be (1) Dave's friends (2) common friends with Dave, (3) Dave's social supporters and (4) had a positive or negative influence on Dave.

To illustrate the benefits of including perspectives of network members in forensic personal network research, some remarkable information given by them is discussed. Dave's mother stated that in her opinion the cause of her son's behavior remained unchanged compared to the period during the crime: in her perspective Dave's behavior was caused by evil spirits. She also believed that healing these symptoms could occur only when these evil spirits were exorcised. One of the friends stated that Dave overestimated his friendships with both of his friends. In reality, the two friends did not want to have frequent contact with Dave when he would reenter society. Such differences in expectations (misperceptions) between Dave and his network members are important risk management information. It is assumed that each misperception leads to stress when the patient reenters society. Based on the information above, the forensic social worker can use tailored interventions, i.e., informing Dave about his "true actual" social support system and assisting him to build and expand it.

Additional ties between network members were discovered, previously unmentioned by Dave himself. Dave's friend mentioned that he and Dave's other friend still had contact with two former friends. In the HPN, these individuals were participating in Dave's criminal activities and they were still carrying on with criminal activities. In Figure 4.3, Dave's CPN is visualized, consisting of direct relations between Dave and his personal network members, as well as, a part of his indirect relations (concretely, the two relations of Dave's friends).

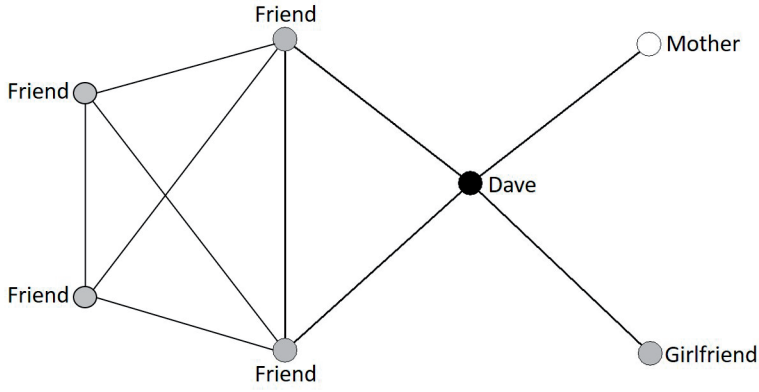


Figure 4.3 CPN after interviewing all selected network members

The sampled CPN network structure may cause implications for Dave's current and future behavioral outcomes. His current network (first degree) is a combination of a crosscutting and a spoke network structure. Only the two listed friends are connected. Dave is still the only link between the various kinds of subgroups/actors (friends, new girlfriend and mother). Dave is directly connected with four network members (first-order network) The listed friends are intermediaries between Dave and the co-offenders of the committed tbs-crime (second-order network).

It is likely that being part of a network configuration like the one visualized in Figure 4.3 has the following consequences for Dave's behavioral outcomes:

- Social influence (CPN/FPN: -)
  - The listed "friends" have high risk jobs, and are still in contact with two co-offenders. Dave wants to spend more time with his friends than they want (there is no reciprocity). In line with the presented theories (paragraph 1.4) one might expect the strongest social influence between mutual best friends. In this case, it is uncertain to which extent these two relationships will influence Dave's behavioral outcomes. It is a cause for concern that Dave highly values criminal oriented others and that potential high risk actors are available at second degree. It is likely that Dave wants to connect with these individuals in his FPN and he may adjust his behavior to their criminal norms.
  - We know from the past that Dave was only slightly influenced by his mother. In addition, she still has a non-supportive attitude towards medicine compliance.
  - The relationship with his new girlfriend is focused on Dave's sexual needs. The girlfriend also has no long-term relationships goals with Dave. She wants to stay with her other partner. Therefore, there are no indications that - in the long run - this girlfriend can have a significant influence on Dave's behavioral outcomes.
- Social capital (CPN/FPN: -). Several current network members provide access to negative social resources, such as accessibility to other criminals (criminal social capital: second degree) and the availability of drugs (negative social capital: first degree).
- Social support (CPN/FPN: -). Dave intends to turn to all network members for emotional and practical support. He only listed one friend as financial supporter. Dave's current 'real' support system is smaller than Dave perceived. It only consists of one long-lasting relationship: his mother.
- Social control (CPN/FPN: -): The personal network is - similar with the HPN - partially fragmented. There are no ties between the three domains (family, girlfriend and "friends"). Not all personal network members are visible for each other. This indicates limitations in collective social support and social control opportunities. Limited control options may be detrimental for medicine compliance and make it harder to fully adhere to the tbs-treatment or future (ambulant) treatments. In the current

situation, only the multidisciplinary team of forensic practitioners monitors Dave's medicine compliance.

4.2.2 Basic personal network question 3

What are the differences and similarities between the risk-increasing and/or risk-reducing roles network members have on patient's behavior in current and future risk-increasing social situations compared to those in the run-up to the crime?

The analysis and interpretation of the data were focused on similarities and differences between (the composition and network structures of) Dave's HPN and CPN/FPN. The aim of this comparison was to evaluate whether positive or negative changes in Dave's social network could be linked to an increased or decreased risk of recidivism. However, there were also a number of similarities between HPN and CPN/FPN.

Based on the different perspectives obtained by the FSNA data collection procedure, it was assessed that negative social network conditions were still present and could increase risk behavior of Dave in the next future. The roles and structural positions of the network members in the CPN/FPN were largely the same as those in the HPN: Dave got a new girlfriend, but his attitude toward intimate relationships appeared unchanged. The relation was primarily based on his sexual needs. Dave perceived positive relations in both time networks with his friends. However, in his CPN, these friendships appeared more important for Dave than for his friends. These friends are working in high risk contexts (drug and sex industry). Also, their contacts with the two other former friends from Dave's HPN are risky. For instance, when Dave is visiting his two friends, he has the opportunity to meet his former friends, who carried on with their criminal activities. In addition, Dave's attitude (macho man, feeling better than the other, respecting criminal behavior, etc.) may contribute to a higher risk of relapse: he has the tendency to connect with friends with same backgrounds and similar 'high risk' values. This is line with the Chapter 1 discussed principle of homophily (McPherson, Smith-Lovin, & Cook, 2001): Dave is not motivated to initiate friendships with individuals having other attitudes or characteristics. In addition, his idea that he can improve the world and his correcting attitude toward others can be linked to his offenses (aggressively correcting people on the street). Dave appeared not intrinsically motivated to take his medication. To improve medication compliance, motivation by significant others would be beneficial and even essential. In Dave's CPN/HPN, these individuals were not present.

The personal network situations are visualized in Figure 4.4.

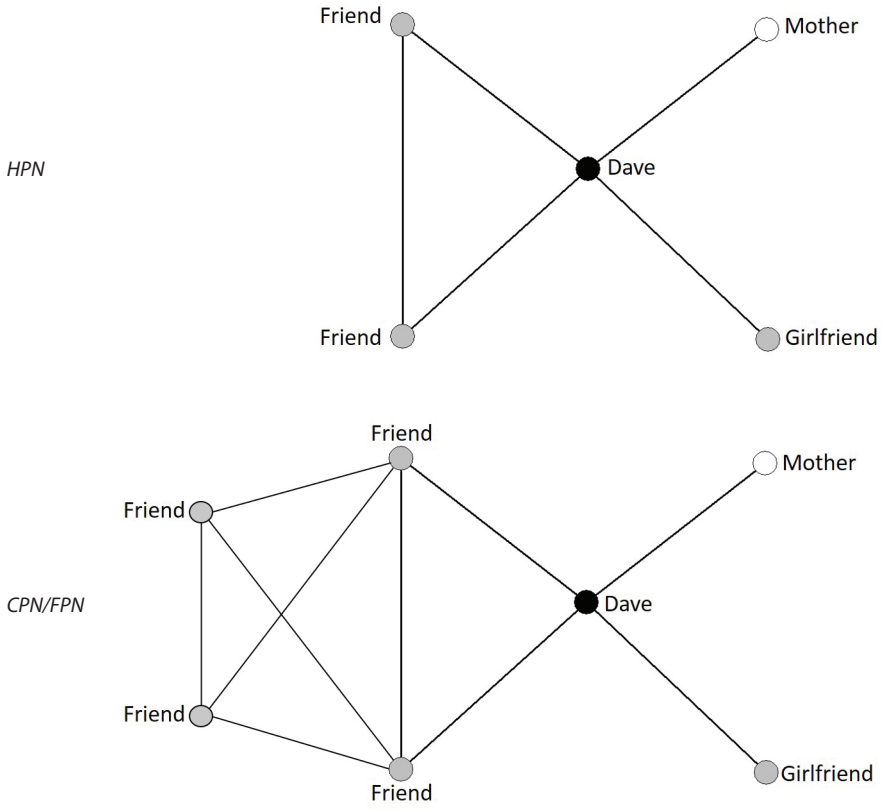


Figure 4.4 HPN versus CPN/FPN

The observed similarities and differences between (the composition and network structure of) Dave's HPN and CPN/FPN are summarized in Table 4.3.

The analysis points to a severe risk for Dave to be negatively influenced by his personal network. To mitigate this risk, some tailored risk management interventions were proposed. *Psycho-education*: the culturally driven opinion of Dave's mother about his mental illness requires extra attention. It could be beneficial for Dave's mother to learn more about the mental illness and the importance of medication use for the wellbeing of her son. *Social skills training*: it is important to motivate Dave also to get close friendships with non-criminals with no-risk jobs. *Intimate relationship skills course*: Dave's attitude toward intimate relations remains unchanged. An intimate relationship could provide emotional attachment, social support, and stability. Dave needs to be encouraged to participate in a relationship skills course to learn more about intimacy.

Table 4.3 Differences and similarities between risk-increasing and/or risk-reducing compositional and structural characteristics in the historical, clinical and future personal network

A 'x' means that (it is likely that) the characteristics are present. A '?' means that it is difficult to establish whether the characteristics are present. An empty textbox means that (it is likely that) the characteristics are absent.

		HPN	CPN	FPN
Network composition				
Risk-increasing	Mother having a counterproductive attitude towards medicine compliance..	x	x	x
	"Best friends" have forensic risk factors.	x	x	x
	Dave highly values criminal oriented others.	x	x	?
	Superficial intimate sexual oriented relationship.	x	x	?
	Girlfriend has forensic risk factors.	x		?
	'High risk' network members as social supporters.	x	x	x
	Lack of reciprocity: differences between Dave and his network members in perception on the strength/ quality of the relationship.		x	?
Risk-reducing	Social network members provide protective social support.			
	Personal network members are available to provide support for medication compliance.			
Network structure				
Risk-increasing	Fragmentation: no ties between the three domains (family, girlfriend and (close) friends). This indicates limitations in collective social support and social control opportunities which would be beneficial for medicine compliance and adherence to the tbs-treatment or future (ambulant) treatments.	x	x	x
	(Opportunities for) high risk social influence of subnetwork with (criminal oriented) network members.	x	x	x
	A mainly cross-cutting personal network structure. Dave is the link between his personal network members. It is likely that Dave will have to adjust to the different values of the various network members.	x	x	x
Risk-reducing	Dave is positioned in a network structure in which personal network members can monitor his medication compliance.			

4.3 Case study 2: Brian

The second case study was also conducted in a Forensic Psychiatric Center in the Netherlands. The case concerns a patient with the fictive name 'Brian'. Brian was treated inside the forensic psychiatric center at the time of the case study. Liberties, like leaves, were not yet part of his treatment.

Treatment goal. Brian was selected for a personal network study because of his status as "high risk offender". This status was based on his risk assessment outcomes. His treatment team suspected that there was a feigned adjustment and feigned behavioral change

General background information

Life history. Brian grew up in a small city. His parents were happily married. Three sons were born, Brian was the middle one. Brian's father had a job with a high income. His mother took care of the children. Brian was a good pupil in primary school. His father died during Brian's teenage years. Brian finished secondary school with average grades. Brian did not engage in any close friendships. As a teenager, Brian committed some burglaries with boys from his neighborhood. He was not arrested for these offenses. Brian found a steady job after finishing secondary school. Brian bought a house and had a stable financial position. From his twenties till his thirties, he had some short intimate relationships. In the two years preceding his committed offenses (from the age of 38 to 40), he lived together with his girlfriend and her daughter. Brian's relationship with his girlfriend was characterized by ups and downs. They were arguing a lot and Brian felt no strong emotional attachment towards her. Brian's family was not happy with his choice of partner. In the months leading up to the offenses, Brian had a sexual relationship with his girlfriend's underaged daughter. His family and his girlfriend were unaware of this sexual relationship. The underaged girl ended this contact after some months and started a relationship with a boy of her own age. She moved out of the house and was living together with her new boyfriend.

TBS-offense. Brian had committed severe sexual offenses: multiple rapes of under aged girls. According to Brian, he committed his offenses because he was bored and unhappy due to the loss of his relationship with the daughter of his girlfriend. Before each offense, he was searching for girls who had physical similarities with his stepdaughter. The offenses were characterized by first talking with the girls to know them better/ "to make connection", after which Brian raped the girls. During the rapes Brian humiliated the victims: he used both psychological and physical violence.

during the intramural treatment because Brian's status as "exemplary patient" conflicted with his severe criminal behavior in the past and his "high risk label". At the time of this case study, the treatment team had to decide whether Brian had shown sufficient progress to enter the next phase of his treatment trajectory. As written in Chapter 1, according to the Dutch TBS law, releasing an offender into society can only be achieved after gradually granting a patient more liberties. The treatment team requested the forensic social worker to provide a more in-depth view of the patient's risk profile in relation to his personal social network and subsequently to define risk mitigating measurements in case supervised leave was granted. The forensic social worker collected information for the personal network analysis using the FSNA data collection instrument.

The extent to which patient and network members cooperated. Brian was invited for the personal network study and he immediately expressed his willingness to cooperate. Three network members, namely his mother and two brothers, were selected because of their significant role in Brian's current life. They were invited for an FSNA network interview and were all willing to participate.

4.3.1 Basic personal network question 1

Which network members/personal relationships are supposed to have a risk-increasing and/or a risk-reducing (protective) influence on patient's behavior in the run-up to the crime? (HPN)

Historical Personal Network (HPN). From Brian's perspective his HPN consisted of his mother, two brothers, his partner, and her daughter. An overview of the social network characteristics of his HPN is shown in Table 4.4.

Table 4.4 HPN characteristics (according to the patient)

Role	Duration of contact	Occupation	Frequency of contact	Initiative in contact	Risk factors	Social support
Mother	Brian's entire life	None	Once a week	Mother	None	Practical
Partner	Two years	Unemployed	Every day	Mutual	None	Companionship
Daughter of partner	One year	Going to secondary school	Every day	Mutual	None	Emotional, Companionship
Brother 1	Brian's entire life	Office worker	Every month	Mutual	None	Practical
Brother 2	Brother's entire life	Mechanic	Every three months	Mutual	None	None

Table 4.4 shows that Brian's HPN consisted of three long-lasting relationships (mother and his two brothers) and two relationships with a shorter duration (partner and her daughter). Brian did not list any friendships with persons from his own sex or age. Brian's girlfriend was unemployed, his brothers had both fulltime jobs, his mother did not have a paid job. Brian stated that he was seeing his partner and her daughter every day in the period prior to the committed offenses (they were living under one roof), but just before the committed offenses Brian's stepdaughter moved out of the house and was living together with her new boyfriend. The contact frequency with his family had decreased (from weekly to once a month/every three months). Brian listed his stepdaughter as his most important social supporter (companionship and emotional support). His girlfriend, one brother, and mother were only listed as practical supporters. None of the personal network member were listed with the FSNA risk factors.

Brian was also asked to give his perception of the relationships amongst his personal network members at that time (Figure 4.5). He experienced close relationships between his mother and brothers, and tense relationships between his family and his partner. Brian mentioned that in the months leading up to the committed offenses, he had a close, positive and sexual relationship with the daughter of his partner. According to Brian no ties between his family members and the daughter of his girlfriend existed.

In forensic personal network research, it is important to assess the various perspectives of the network members involved. In this case, Brian's treatment records included information about the young girl's perspective. Contrary to the information that Brian provided, this girl had declared that she was afraid of Brian. She was looking for ways to avoid him. Starting a new relationship and moving in with her new boyfriend was a way of ending her victimhood. Additional information about Brian's HPN was also provided by the interviewed family members. His family did not like his partner. In their perspec-

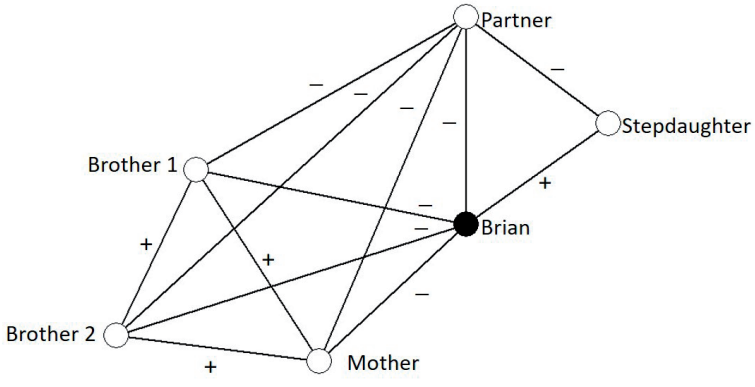


Figure 4.5 HPN structure according to Brian

tive his partner was not good enough for Brian. Brian's family was unaware of the tensions between Brian and his partner. Nor did they know about the sexual relationship between Brian and his stepdaughter. In the current situation, they still struggled to believe that these sexual contacts actually taken place. They clarified that it never occurred to them that Brian was in any way connected to the crimes when they heard the news of the raped girls. It was shocking for the family to find out that Brian was able to commit such severe (sexual) offenses.

Figure 4.5 shows the HPN's network structure according to Brian.

Figure 4.5 shows the personal network according to Brian in the period before his offenses. Brian's main network structure (Figure 4.5) largely corresponds to the closed network structure (ties between family domain and partner). Brian's stepdaughter was isolated from the family subnetwork, but has ties with her mother, the partner of Brian (crosscutting-spoke structure).

Brian experienced negative relationships with his family and his partner. On the one hand, he knew that his family disagreed with the relationship with his girlfriend. On the other hand, when this relationship came into a downward spiral, he did not want to share his relationship problems with his family.

In line with our presented implications in Chapter 1 (see subparagraph 1.4), it is likely that being part of the above network configuration has the following consequences for Brian's behavioral outcomes:

- Social influence (-). Although Brian was part of a dense family subnetwork characterized by 'theoretically' protective influences (no risk factors, close family), he experienced negative relationships with his family and partner.
- Social capital (-). Due to what Brian perceived as a deteriorated relationship with his family and partner, there was no stability in accessibility of social resources. There was only the 'unsuitable' social resource, namely the perceived relationship with his stepdaughter.
- Social support (-). We observed that Brian was relying on his underaged stepdaughter to receive emotional support: he preferred the company of this underaged girl more to his other personal network members. There were various other social support options, but from Brian's point of view, there was only one significant and positive relationship in his HPN, i.e., the relationship with his stepdaughter. He was to his family members and partner not open and honest about his feelings and actions related to the relationship with his stepdaughter and his committed offenses.
- Social control (-). Brian's severe offenses remained out of side from his network members. Compared to committed offenses in groups individual risk behavior is more

difficult to detect, even more so when offenses are committed outside the personal social context. Brian's family members - who knew Brian best - were not able to recognize his risky behavior. Brian's partner was unaware of Brian's relationship with her daughter, and later on, she was unaware of his committed offenses.

Our theoretical personal network perspective in Chapter 1 is helpful for a deeper understanding of Brian's behavior during the offense. In line with the concept of 'proximity' (Allan, 1979; Feld & Carter, 1998) due to the relationship with his partner, Brian was able to connect with her daughter (she was geographically close). We observed that Brian could not stop his stepdaughter to live with her new boyfriend. Brian was - from that moment onward - constrained in his opportunities to achieve his needs within his personal network. Brian experienced a great loss that he did not share with his network. Brian resolved this loss by having a temporarily - in his perspective - positive contact with his victims outside his personal network. In all offense scenarios, Brian talked with the selected victim about his emotional feelings (trying to achieve affection, emotional proximity) and he raped the victim (trying to achieve sexual stimulation, physical proximity). He was searching for suitable alternatives and therefore his risk behavior can be explained - from Brian's perspective - as the most suitable behavior for achieving his goals.

4.3.2 Basic personal network question 2

Which types of network members/personal relationships are more likely to have a risk-increasing and/or a risk-reducing (protective) influence on patient's behavior in current and future social situations? (CPN and FPN)

Brian listed his mother, two brothers and also his female social worker as his personal network members in his CPN/FPN. He reported no friendships in his CPN and FPN. Brian stated during his FSNA interview that, according to him, there was no risk of reoffending. Focusing on his future "return" network (FPN), Brian did not expect any changes. Brian was looking forward to visit his network members outside the FPC. None of his personal network member displayed any risk factors. Brian listed his family members for practical support and his social worker for emotional and companionship support. Brian mentioned that he was able to provide his own financial support. An overview of the personal network characteristics during the current and future situation is shown in Table 4.5.

Brian was asked to give his perception of the relationships between his personal network members in the current and future situations. Brian listed ties between his mother and brothers and between his family members and his female social worker. Brian listed

Forensic psychiatric treatment background information

Diagnosis. In the forensic psychiatric clinic, Brian was diagnosed with a personality disorder Not Otherwise Specified (NOS). He had no history of substance abuse. Brian also had no history of mental health problems nor any previous police records.

Clinical treatment information of last 12 months. Brian was treated at a special division for sex offenders. Brian stated in previous interviews with his treatment team that the therapy sessions made him feel better and helped him to express his feelings. He was polite, at times even charming towards to his mental health professionals, and did not cause any problems in his daily functioning. Brian enjoyed working in the carpenter's workshop inside the FPC. He was looking forward to get more freedom and to build a new future outside the FPC. However, the treatment team was worried that Brian was not truly intrinsic motivated in treatment. In treatment sessions, Brian rationalized his behavior during the offenses and romanticized his earlier "relationship" with the daughter of his ex-partner.

One brother visited Brian during his time in prison and the FPC. This brother expressed his interest in the given forensic psychiatric care to Brian. More concretely, he read - with permission of Brian - some treatment documents to better understand Brian's motives to commit his offenses. Brian's mother was not able to visit the clinic due to medical reasons. Brian's other brother was not motivated to visit Brian. In his opinion, Brian failed to realize exactly what damage he had caused to his victims, their families, and his own family (e.g., being the mother/brother of a sex offender).

Table 4.5 Social network characteristics of CPN and FPN (perception of patient)

Role	Duration of contact	Occupation	Frequency of contact	Initiative in contact	Risk factors	Social support	Future contact (FPN)
Mother	Brian's entire life	None	Once a week	Mother	None	Practical	Yes
Brother	Brian's entire life	Office worker	Every month	Mutual	None	Practical	Yes
Brother	Brother's entire life	Mechanic	Every three months	Patient	None	Practical	Yes
Social worker (female)	Two years	Forensic psychiatric social worker	Four to five days a week	Mutual	None	Emotional, Companionship	Yes

identical personal network structures for his CPN and FPN. Brian mentioned that he liked his female social worker very much. He wanted to continue this relationship in future, especially whilst reentering society. Brian defined his relationships with his mother and brothers as stable and positive. He noticed some tensions between his family and his social worker. He did not discuss these tensions with his family or with his social worker. Figure 4.6 shows the CPN and FPN network according to Brian's perception.

The sampled CPN and FPN network structures, as perceived by Brian, have implications for his current and future behavioral outcomes. His CPN and FPN are in line with the closed network structure as defined in Chapter 1. We assume that being part of the above network configuration has the following implications for the four theoretical concepts, namely:

- Social influence (CPN: +/-, FPN: ?). It is difficult to assess to which extent his family members influence Brian's current behavior during treatment inside the FPC. Brian is part of a dense family subnetwork, but due to his current incarceration in the FPC, Brian has limited opportunities to meet these network members. None of the family member showed any of the defined forensic risk factors. Brian valued all relationships between him and his alters as 'positive'. Brian did not mention any friendships. In line with the concepts of proximity and homophily, you should expect that it was likely that Brian makes connections with other patients, but this was not the case (in his words: he felt no emotional connection with his fellow patients).
- Social capital (CPN: +/-, FPN: ?). In the current situation, there is stability in the accessibility of (in-)formal social resources. Although his family members are willing to support and advise him, Brian especially values his social worker as significant other. It is hard to predict what will happen when Brian rejoins society. If the social worker disappears when treatment ends and no other informal network member is available to compensate for this loss, his personal network is quite similar to his

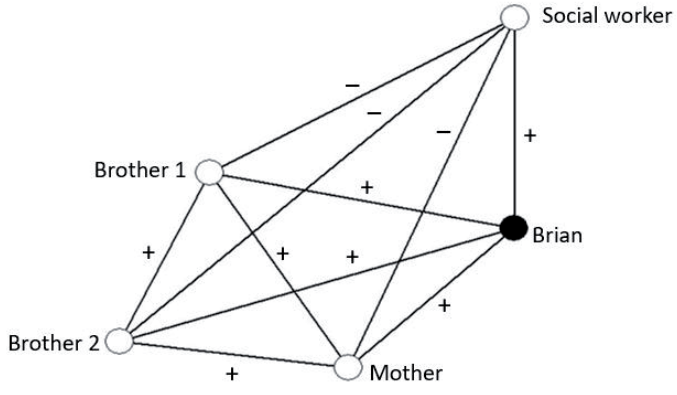


Figure 4.6 CPN and FPN according to Brian

HPN: Brian will have limited opportunities to achieve his personal (social/affectional) goals in his informal personal network.

- Social support (CPN: +/-, FPN: ?). In the current situation, it is striking that Brian relies so heavily on his social worker for emotional support: he preferred her company more than the company of his other personal network members or other members of the multidisciplinary treatment team. There are (emotional) social support options, such as his family members or fellow incarcerated patients, but Brian is satisfied with the perceived social support of his social worker.
- Social control (CPN: +/-, FPN: ?). It is uncertain to which extent social control options will be effective when Brian will reenter society. There are no observed investments in alternative prosocial relationships/activities.

To illustrate the benefits of including and interviewing network members, one should study the information given by them. Because of the small number of personal network members, all family members were invited for a network interview: Brian's mother and his two brothers. All three selected network members were willing to participate and the forensic social worker visited them separately in their own homes.

In line with the information provided by Brain, no family member reported any forensic risk factors. One brother admitted that he had faced financial difficulties in the past. However, currently he had a job and a steady income. All three family members mentioned that they had irregular contacts with Brian in the period prior to his offenses. These contacts deteriorated after Brian started the relationship with his girlfriend at that time. There was hardly any contact between Brian and his family in the period he was living together with her. In the last months before the offenses, Brian sometimes visited his oldest brother. Looking back on the period of the offense, this brother noticed that prior to Brian's offenses, Brian quietly sat at his kitchen table. This brother still wonders, if he had taken the time to talk with Brian, whether one or more of the offenses could have been prevented. Mother and the other brother failed to notice any preceding risk signals related to Brian's offenses and after learning about his deeds, they found it difficult to imagine that Brian had committed these severe crimes. By reflecting on the FSNA question "*Are you aware of the crime history of Brian? If so, could you tell me what you know*?", mother and the youngest brother solely spoke about aggressive behavior and did not mention any of the sexual components. The oldest brother mentioned all offense components. As mentioned earlier, this brother recently read - with permission – Brian's treatment documents, including his crime scenario and risk assessments.

All three network members stated that Brian was welcome to pay a visit when he would be allowed to have leaves. However, because they were aware that the families of the victims were still very upset, they did not feel comfortable meeting Brian in their

hometown. All three network members had the intention to financially or practically support Brian if necessary. However, in their opinion Brian is quite capable to take care of himself. The youngest brother expected that his relationship with Brian would remain superficial. He did not want to talk with Brian about personal matters. Brian's mother mentioned that she discusses personal matters with Brian. The oldest brother was hoping that Brian would start talking about important personal matters with him. So far, this brother experienced that Brian was not open to others.

The network members interviews did not reveal any additional relational ties. Brian told his mother that he did not need friends, because he had a good relationship with his treatment team, especially with his social worker. However, the mother mentioned that she experienced his social worker as unfriendly whenever she was talking to her on the phone.

All network members expressed their confidence in a crime-free future if Brian would get a stable job and a house located in a different area then his hometown. His mother expected that Brian would find a "good" wife. Both brothers shared the opinion that it was better for Brian that he would no longer engage in romantic relationships for the rest of his life due to his offense history. They did not believe that Brian would be able to find a suitable partner if he would be honest about his past offenses to future contacts.

4.3.3 Basic personal network question 3

What are the differences and similarities between the risk-increasing and/or risk-reducing roles network members have on patient's behavior in current and future risk-increasing social situations compared to those in the run-up to the crime?

The objective of the comparison was to evaluate whether there would be and increased risk of recidivism that was caused by any personal network conditions. A first noteworthy similarity was Brian's focus on a female person valued as a positive (+) relationship in all situational networks (HPN: girlfriend's daughter, victims, CPN/FPN: social worker). The female social worker, his stepdaughter, and his two victims happened to share the same physical characteristics (blond hair, brown eyes, smart looking, etc.). The second similarity was the difference in perception of the nature of the relationship between Brian and his perceived female significant other. In his HPN, Brian thought that he had a positive romantic relationship with the daughter of his girlfriend. However, this young girl experienced their relationship as negative and traumatic. In the CPN, Brian reported that he had a very positive friendly contact with his social worker. However, from the perspective of the social worker she had professional talks with Brian about

his emotions and feelings. The third similarity was the attitude of Brian's family towards his perceived significant female others. His family did not like the social worker as they did not accept Brian's partner in his crime period. In all personal networks, Brian listed no friendships. This is in line with his life history: both Brian and his interviewed family members never mentioned any close friendships. A potential positive change observed in Brian's CPN, is that Brian perceived his ties with the three family members as positive. In his HPN, he listed them as negative relationships. The question remained how strong/stable the positive ties were in the current situation, because Brian had experienced some tensions between his family and his social worker.

The personal network configurations are visualized in Figure 4.7.

The observed similarities and differences between the composition and network structure of Brian's HPN and CPN/FPN are summarized in Table 4.6.

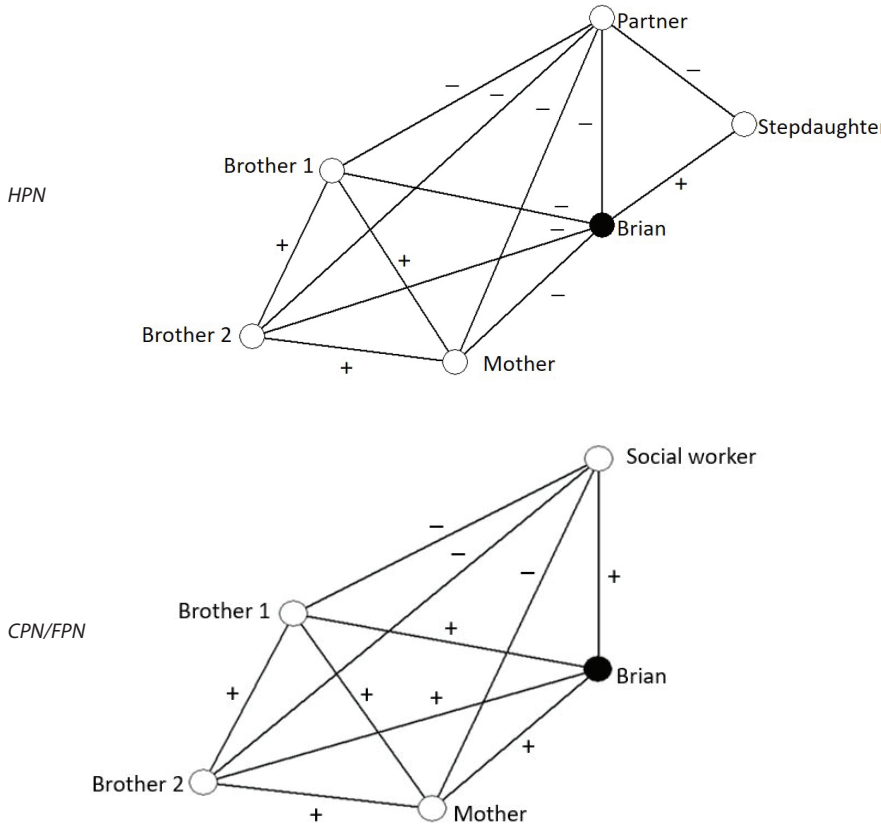


Figure 4.7 HPN versus CPN/FPN

Table 4.6 Differences and similarities between risk-increasing and/or risk-reducing compositional and structural characteristics in the historical, clinical, and future personal network

A 'x' means that (it is likely that) the characteristics are present. A '?' means that it is difficult to establish whether the characteristics are present. An empty textbox means that (it is likely that) the characteristics are absent.

		HPN	CPN	FPN
Network composition				
Risk-increasing	A focus on one positive (intimate) personal relationship with a female significant other with similar physical characteristics.	x	x	x
	Receiving emotional support from this female significant other which is not mutual.	x	x	x
	No close friendships.	x	x	x
Risk-reducing	Receiving social support from his family members.		x	?
	Sustaining a protective long-term intimate (sexual/emotional) relationship.			
Network structure				
Risk-increasing	Fragmentation: no ties between the family members and the female significant other. This provides limitations in social control opportunities. To prevent recidivism, it is necessary to identify risk factors before Brian is positioned in a high risk social network structure.	x		?
Risk-reducing	Ties between all network members.		x	?
	Positives ties between Brian and his family members.		x	?

The observed differences and similarities in the HPN and CPN/FPN can be used to define and to implement tailormade risk management interventions. The analysis indicated that there were still indications of a substantial level of risk. Brian had a history of psychosocial problems, therefore it was important that the treatment team paid (renewed) attention to interpersonal difficulties with his family members and difficulties in sustaining long-term intimate (sexual/emotional) relationships. It was therefore recommended to closely monitor the changes in the relational ties and the perceived quality of these ties by Brian. Based on his offense network configuration, it was assessed that a situation where Brian would be isolated from his personal network members would be risky. In addition, it is important that Brian could fulfill his emotional and physical needs in a protective context. More varied caring relationships are needed - such as intimate, family, and friendships - to optimize social support resources as this may contribute to a protective buffer when Brian would be confronted in his FPN with changing relationships or losing relationships. For instance, how will Brian deal with the loss of his perceived positive relationship during his reintegration into society?

In the discussions about the outcomes of this personal network study, the treatment team was negatively surprised, because of the apparent similarities between the time periods (as defined in Table 4.6). They never analyzed Brian in terms of personal network dynamics. The treatment team formulated, based on this study, the following risk management interventions:

- Not allowing supervised leave;
- Replacing Brian's treatment sessions with the female social worker by treatment sessions with a male social worker;
- Monitoring closely whether changes occur in the interaction between Brian and his significant others;
- Conducting a follow-up FSNA interview prior to the next decision about allowing supervised leave;
- Organizing family therapy with Brian and his family members.

4.4 Case study 3: Steven

The fictive name of the patient studied is 'Steven'. At the time of the personal network research, Steven was in his rehabilitation phase and already lived in a transmural care unit situated outside the FPC. Steven was still supervised and treated by the mental health professionals of the FPC.

Treatment goal. In the forensic psychiatric hospital Steven was diagnosed with a psychotic disorder (DSM IV Axis-I). One of the questions of his treatment team was to explore the opportunities for resocialization: how can the necessary care, structure, and supervision be adequately designed? In what way can his personal network contribute to his risk management?

The extent to which patient and network members cooperated. Steven was invited for the personal network research but was not that motivated to cooperate. Although he questioned the usefulness of examining his personal network, he agreed to participate. Four network members, namely his ex-girlfriend, two brothers, and his current boss were selected for an FSNA interview because of their significant role they appeared to play in Steven's life. They all cooperated in the personal network study.

General background information

Life history. Steven's parents were married in their twenties. In their early thirties, they emigrated from Aruba to the Netherlands and started a family. Steven grew up with two older brothers. As a child, Steven had a hard time making and sustaining friendships and being accepted by his peers. Steven was feeling isolated and different. He spent a lot of his leisure time with his brothers. During his secondary school years, Steven managed to be part of a large peer group. This group consisted of teenage boys who all used some type of drugs. At the age of seventeen, Steven met a sixteen years old girl and started a romantic relationship. Meanwhile, Steven dropped out of school, but found a job. His parents decided to return to their homeland and Steven and his older brothers continued to live in their parental home. After a while, his girlfriend got pregnant and moved into Steven's and his brothers' house. Their first daughter was born. After two years, a second daughter followed. Steven's relationship with his girlfriend was turbulent (e.g., they both were jealous and struggled with their role as parent). Steven spent a lot of his time with his friends and started to use drugs in combination with alcohol. Meanwhile, he lost his job and displayed strange behavior towards his family. His brothers arranged professional help. Steven was diagnosed with a psychotic disorder, but he refused his prescribed medication. As an alternative Steven used drugs and alcohol. His brothers tried to help him by trying to convince him to get help from a mental health institution, but Steven did not believe he needed help. After some time, Steven had the strong persuasion that two criminals wanted to kill him. He killed one of these potential assassins. No one knew that he had committed this offense. Meanwhile, Steven continued to hang out with his friends on the streets. One day, at the age of twenty-two, Steven committed a burglary together with two friends and was arrested. Steven stayed in contact with his girlfriend and their daughters during his prison sentence. Steven's relationship with his brothers was deteriorating during this prison sentence. Steven became psychotic in the last months of his incarceration. As part of his hallucinations, he thought his oldest daughter was sexually abused. Steven did not share these thoughts with his (in-)formal network members.

TBS-offense. At the age of twenty-five, Steven's incarceration ended. He was living in a small village with his girlfriend and their daughters in their own house. Steve did not use his prescribed medicines. Steven found a job and he became friends with two colleagues and his boss. A colleague shared a rumor that another employee was a child molester. From that day onwards, Steven observed this specific employee. The way this person behaved, confirmed his suspicions. Steven assumed that he was ordered to kill this man. After he killed this man, Steven went home and continued with his usual activities. Later that day, he was arrested. He immediately confessed, not only for this murder but also the first unsolved murder. Steven was sentenced to the tbs-order.

4.4.1 Basic personal network question 1

Which network members/personal relationships are supposed to have a risk-increasing and/or a risk-reducing (protective) influence on patient's behavior in the run-up to the crime? (HPN)

Historical Personal Network (HPN). According to Steven, his HPN consisted of a limited number of persons, namely his girlfriend, two daughters, two friends, his boss, and two colleagues. Steven defined his relationship with his girlfriend as very tense. Steven had no contact with his family members. An overview of the personal network characteristics at the moment of the crime is shown in Table 4.7.

Table 4.7 shows that Steven HPN consisted of several long-lasting relationships (two friends, his girlfriend, and their daughters) and three working relationships with a shorter duration. Steven's girlfriend worked in a shop, his best friends were unemployed and earned their money mainly with criminal activities. All personal network members

Table 4.7 HPN characteristics (according to the patient)

Role	Duration of contact	Occupation	Frequency of contact	Initiative in contact	Risk factor	Social support
Girlfriend	10 years	Working in a shop	Every day	Mutual	None	Emotional and Companionship
Daughter 1	Her whole life (eight years)		Every day	Mutual	None	Companionship
Daughter 2	Her whole life (six years)		Every day	Mutual	None	Companionship
Friend 1	11 years	None	Two times a week	Mutual	Criminal record, drug usage, severe alcohol consumption	Emotional and companionship
Friend 2	11 years	None	Two times a week	Mutual	Criminal record, drug usage	Emotional and Companionship
Boss	Two months	Working in a factory	Every workday	Mutual	None	Practical
Colleague 1	Two months	Working in a factory	Every workday	Mutual	None	Practical and Companionship
Colleague 2	Two months	Working in a factory	Every workday	Mutual	None	Practical and Companionship

were listed as frequently contacts. Both of his friends had multiple risk factors (criminal record, drug usage, and one friend also with severe alcohol consumption). All personal network members were listed as social supporters.

Steven was also asked about his perception of the relationships between his personal network members at the moment of his offenses. Steven reported both ties between his girlfriend and his two daughters, and between his girlfriend and his two friends. Steven listed a dense subnetwork of his work-related relationships consisting of his boss and two colleagues. This subnetwork was isolated from his other personal network members (girlfriend, children, and friends).

Figure 4.8 shows Steven's perceived ties between his personal network members in his HPN.

Stevens 's main network structure in Figure 4.8 largely corresponds to the crosscutting network structure. He is the link between the two subnetworks (subnetwork 1: family and friends, subnetwork 2: work). Steven and his girlfriend were the link between the friends and their daughters. In line with the discussed implications in Chapter 1 (see paragraph 1.4), it is likely that being part of the above network configuration has the following consequences for Stevens's behavioral outcomes:

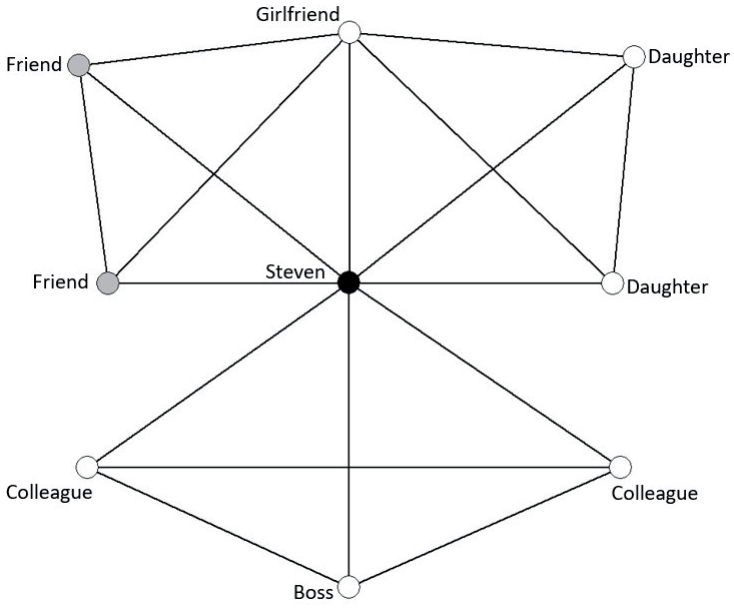


Figure 4.8 Personal Network at the Moment of the Crime (HPN) according to Steven

- Social influence (?). Steven highly valued his relationship with his partner and friends. It appeared that in Steven's life several network dynamics have had a significant role into Steven's deterioration in his psychosocial functioning: the tense relationship with his girlfriend, hanging out with friends with high risk factors (criminal record, drug usage, severe alcohol consumption). However, it is difficult to establish if these social factors were (also) triggers for his last offense. Due to his mental deterioration, Steven had an altered perception of reality that affected his behavior.
- Social capital (-). The social ties bring along benefits: Steven was connected to heterogenous individuals (family, friends and work) with a variety of social resources. However, Steven's personal network members also generated various criminal capital, such as such accessibility to criminal oriented others (friend 1) and the availability of drugs and alcohol (friend 1). Additionally, his ties with his girlfriend generated stressors (negative social capital), such as jealousy, suspicion and aggression. These stressors may have impacted Steven's physical and mental wellbeing and vice versa.
- Social support (+/-). There was a reasonably stable social support system. Although, this social support system was not able to support Steven in his mental health needs (e.g., help him with his medicine compliance).
- Social control (?). Taking into account Steven's mental health condition some significant social control issues related to Steven's HPN were taken into consideration. An important observation was that his personal network members in his HPN did not detect Steven's mental deterioration: he appeared to be functioning relatively well (e.g., Steven's brothers were no part of his HPN; earlier in Steven's life, they noticed his strange behavior and sought professional help). Steven's girlfriend was living with him and saw him every day, yet she failed to recognize his psychotic symptoms. Furthermore, Steven's boss did not notice that Steven acted strangely at work. The significant question in this case is to what extent the network members failed to understand the signs/triggers for occurrences of his psychotic symptoms or whether there was nothing noteworthy to observe in the first place: it seemed like that Steven's offense behavior came 'out of the blue'.

4.4.2 Basic personal network question 2

Which types of network members/personal relationships are more likely to have a risk-increasing and/or a risk-reducing (protective) influence on patient's behavior in current and future social situations? (CPN and FPN)

During the FSNA interview about his CPN, Steven mentioned that he had a small personal network. Steven told that his CPN consisted of his ex-girlfriend, their two daughters, his new boss and one new colleague, see Table 4.8.

Forensic psychiatric treatment background information

Diagnosis. Steven was not held fully 'responsible' for his acts, because of his psychotic period underlying his committed crimes. In the forensic psychiatric hospital Steven was diagnosed with a psychotic disorder and substance dependence (alcohol and drugs).

Clinical treatment information of last 12 months. At the moment of the FSNA research, Steven was 34 years old and had tbs-treatment for about five years (before this treatment started, he stayed for two years in prison). His "treatment status" at the time of the interviews was "transmural". In the last year before the data collection, Steven acted stable and appeared to have made progress in his treatment. Steven was friendly and appeared to be open and honest to his treatment team. According to his treatment team, Steven had a need for external control, structure, and guidance. Concerning his psychotic vulnerability, he was supported to self-administer his anti-psychotic medication. Steven took it according to prescription. There were no signals that Steven used either drugs or alcohol. The prognosis was that Steven needed a certain degree of guidance and care for the rest of his life or at least for a long while.

Table 4.8 Personal network characteristics of CPN and FPN (according to the patient)

Role	Duration of contact	Occupation	Frequency of contact	Initiatives in contact	Risk factors	Social support	Future contact (FPN)
Ex-girlfriend	17	Working in a shop	Once a week	Mutual	None	Emotional and companionship	Yes
Daughter 1	15		Once a month	Steven	None	Companionship	Yes
Daughter 2	13		Once a month	Steven	None	Companionship	Yes
New Boss	1 year	Manager workplace for people with mental health problems	Every workday	Mutual	None	Practical and companionship	Yes
New colleague	1 year	Workplace for people with mental health problems	Every workday	Mutual	Psychiatric problems	Practical and companionship	Yes

His former friends are no longer part of his personal network. Steve expected no significant changes for his FPN. All adult personal network members had a job. Steven mentioned during the interview that he believed that his relationship with his ex-girlfriend would last forever. In his words: "the bond between us is strong, because we have children together". Steven mentioned that his two brothers were also very important to him. It made him sad that these relationships were fading away/ceased to exist. Steven always felt connected to his brothers, even without actual contact. The frequency of contact with his two daughters was less than Steven wanted (reality: once a month, his ideal situation: every day). Steven's colleague was listed with a risk factor, namely 'psychiatric problems'. However, this was not that remarkable because of the nature of the workplace (workplace for employees with mental health vulnerabilities).

Steven listed his perceived relations between his personal network members in the current and future situations. Steven reported ties between his boss and colleague (domain: work) and between his ex-girlfriend and their daughters (domain: family). Steven added the new boyfriend of his ex-girlfriend to this subnetwork at distance 2. Steven listed identical personal network structures for his CPN and FPN.

Figure 4.9 shows the CPN/FPN according to Steven.

The benefits of interviewing network members can be illustrated by noteworthy qualitative information they delivered. In the case of Steven, not only personal network members of his CPN were selected, but also his two brothers, because the forensic social worker was curious about the brothers' views on Steven's behavior and their possible motives for not having contact with their brother.

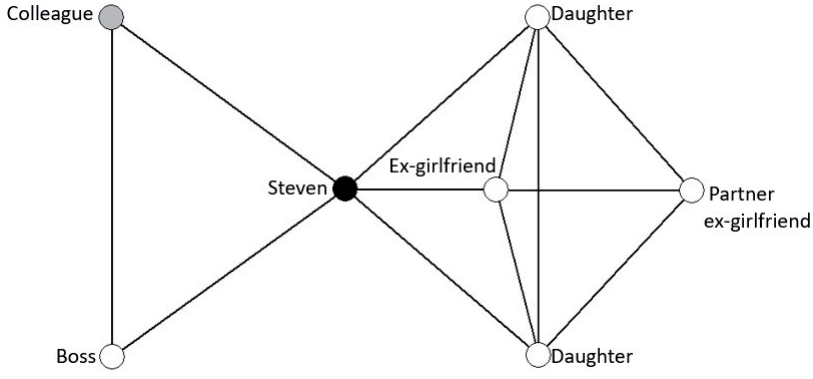


Figure 4.9 CPN/FPN according to Steven

The FSNA interviews took place in the ex-girlfriend house, at the working place of Steven's boss, and both brothers were interviewed together in the house of one of the brothers. Firstly, during the interview with the ex-girlfriend, this woman stated that she met Steven when she was only 16 years old. She was heavily in love and she was under the impression that he loved her too. At the age of 18, she became pregnant. At the age of 20 she became pregnant for the second time. During their relationship, Steven ended the relationship regularly. Steven mentioned various reasons for breaking up, such as "he had enough of her" or reasons related to his incarceration. The ex-girlfriend said that Steven was jealous and suspicious and became more and more aggressive and violent in their relationship. To their children, he was brutal and harsh. Nowadays, she still loved him even though the relationship was 'over': "*I feel as if we have become adults together, like we are family*". At the same time, she was afraid of him. The FPC informed her when Steven was on leave. She only wanted supervised visits to the children. She stated: "*Otherwise, he could 'miss' the train. Then he would have to spend the night with me and you never know what happens*". In the meanwhile, the ex-girlfriend had started a new intimate relationship. She did not want Steven to meet her new partner, because she was worried the two men would fight.

Secondly, during the interview with the two brothers, they told the interviewer that they did not maintain contact with their brother Steven, because he was in and out detention and he also never listened to their advice. They tried to persuade Steven to go to a psychiatric hospital voluntarily, but failed. They did not know what to do. They were unaware of the specific psychiatric problems of their brother.

Finally, Steven's boss mentioned during the interview that he was satisfied with Steven's job performance. Steven got along with his boss and his immediate colleagues. He was friendly and always willing to help others. Steven's boss mentioned one concern; Steven was sometimes a bit too assertive: "*When he gives his opinion, he ignores the feelings of others*".

All interviewed network members were asked to give their opinion on Steven's abilities to not reoffend in the future. Table 4.9 shows the answers given.

Overall, Table 4.9 illustrates that all network members had limited confidence about Steven's abilities to not reoffend in the future. Most answers are ranged between 'no confidence at all' and 'confident'. Most answers were given in category 'somewhat confident'. With the knowledge in mind that Steven had entered his last phase of treatment in the FPC (transmural phase), these results did not look promising for a successful rehabilitation. Although, it is important to use caution when interpreting this kind of data. For instance, it is important to mention that not all interviewed network members had a

Table 4.9 Network members confidence related to Steven's abilities to have a stable prosocial life after his forensic psychiatric treatment

How much confidence do you have that Steven:	*No confidence at all*	*Somewhat confident*	*Confident*	*Very confident*	*Very much confident*	*I don't know*
- can have a crime-free future?		Ex-girlfriend Brother 1 Brother 2	Boss			
- will ask for help?	Ex-girlfriend	Brother 1 Brother 2		Boss		
- will undertake meaningful activities?		Ex-girlfriend Brother 2	Brother 1	Boss		
- takes his medicines?	Ex-girlfriend	Brother 1				Boss Brother 2
- find a stable job?		Ex-girlfriend	Brother 2 Boss	Brother 1		
- is able to live on his own?		Ex-girlfriend				Brother 1 Brother 2 Boss
- will make new contacts?		Brother 1 Brother 2	Ex-girlfriend	Boss		
- maintain his contacts?		Ex-girlfriend Brother 1 Brother 2				Boss
- manage his own financials?	Ex-girlfriend	Brother 1 Brother 2				Boss
- will not use drugs?		Ex-girlfriend Brother 1 Brother 2	Boss			
- will not drink alcohol?	Ex-girlfriend	Brother 1 Brother 2	Boss			

good overview of Steven's current functioning in his forensic psychiatric treatment. For example, his brothers did not see him for years and Steven's boss had observed him only in his working environment.

In every personal network study based on the FSNA data collection instrument, the degree of support provided by the patient's family, friends and others can be displayed using the social support table as earlier described in Chapter 2. Table 4.10 shows the degree of (dis-)agreement between the expectations given by Steven and his interviewed personal network members with respect to the four types of social support in his FPN.

Table 4.10 Social support table

Social support	Spending time with (companionship)	Borrowing money (financial)	Domestic help (practical)	Seeking advice from (emotional)
From ex-girlfriend				
according to patient	Yes	Yes	Yes	Yes
according to ex-girlfriend	No	No	No	No
From brother 1				
according to patient	No	No	No	No
according to brother	Yes	Yes	Yes	Yes
From brother 2				
according to patient	No	No	No	No
according to brother	Yes	Yes	Yes	Yes
From boss				
according to patient	Yes	No	Yes	No
according to boss	Yes	No	Yes	No

Table 4.10 illustrates that seventy-five percent of the listed social support is based on different expectations (yes/no – no/yes combinations). Steven perceived support from his ex-girlfriend for all four types of social support, she did not mention him once. The forensic social worker had some doubts about the validity of the answers given by the ex-girlfriend, because she expressed mixed signals during the FSNA interview. On one hand she was '*still loving him/ and you never know what happens*', on the other hand she was '*afraid of him and having the wish to only allow supervised visits to the children*'. A positive finding in table 4.10 was the willingness of the brothers to support their brother in his CPN/FPN, because Steven assumed that he would not receive any social support from his two brothers. Steven and his boss had similar expectations of each other.

4.4.3 Basic personal network question 3

What are the differences and similarities between the risk-increasing and/or risk-reducing roles network members have on patient's behavior in current and future risk-increasing social situations compared to those in the run-up to the crime?

The objective of this comparison was to evaluate whether there would be and increased risk of recidivism that was caused by any personal network conditions. There were many similarities and some differences between HPN and CPN/FPN. See Figure 4.10 and Table 4.11.

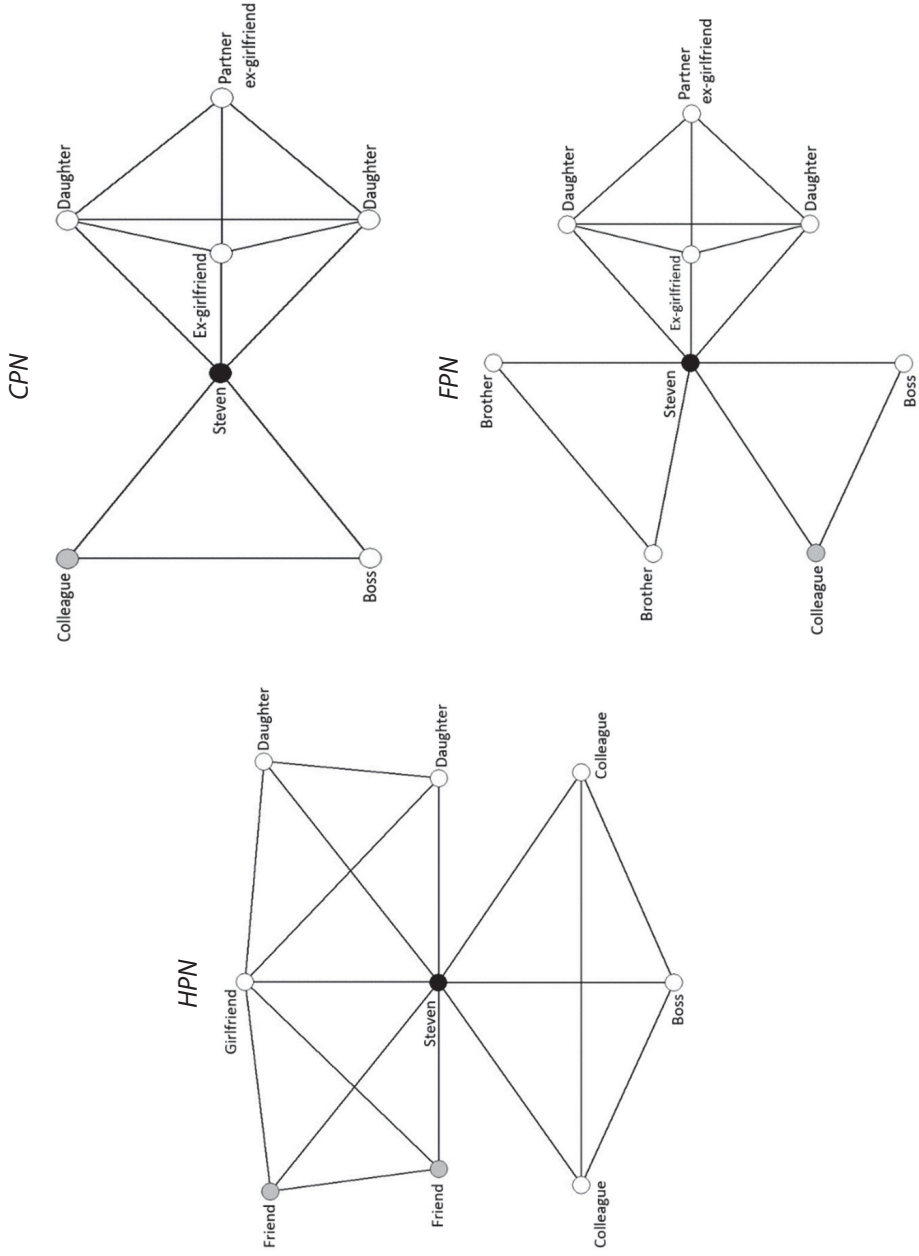


Figure 4.10 HPN versus CPN/FPN

The sampled CPN and FPN network structures in Figure 4.10, are quite similar with the HPN structure. All assessed structures largely correspond to the crosscutting network structure: there are different cohesive subgroups. In his CPN, Steven is the link between the two subnetworks (subnetwork 1: family, subnetwork 2: work). Contrary to the HPN, the CPN includes no (criminal-oriented) friends. Two separate family subnetworks emerge in the FPN. We assume that being part of the CPN and FPN network structures has the following consequences for the four theoretical concepts, namely:

- Social influence (CPN: +/-, FPN: ?). Steven was spending time in his HPN with friends with criminal backgrounds and drugs and alcohol problems. These risk factors were not present in the current situation: in the CPN/FPN no negative criminal oriented social influences are assessed. The question remained whether Steven would restore previous (high risk) friendships or start new friendships when he experiences less control of the FPC. The largest social stressor in his CPN/FPN appears the tense relationship with his ex-girlfriend. This relationship can be defined as ambivalent.
- Social capital (CPN: +/-, FPN: ?). The current network members do not generate criminal social capital, such as accessibility to criminal oriented others. Relationship quality is difficult to establish in Steven's case. His relationship with his ex-girlfriend may generate stressors (negative social capital), such as jealousy, suspicion and aggression. These stressors may undermine Steven's physical and mental wellbeing (and vice versa: it is questionable to which extent Steven's reintegration is beneficial for his personal network members' wellbeing). In addition, it is not certain to which extent Steven understands, values and supports his two daughters' needs.
- Social support (CPN: +/-, FPN: ?). As shown in Table 4.10, a major part of the listed social support was based on different expectations. On the one hand, there are signals that Steven overestimates the willingness of girlfriend to social support him. On the other hand, Steven underestimates the willingness of his brothers to social support him. It is important in Steven's case, that (in-)formal personal network members are available to provide support for medication compliance. In the current situation, Steven appeared to be intrinsically motivated to take his medication and there is only support from formal significant others: his treatment team. An outcome of this personal network study was that the brothers were motivated to be part of Steven's support system.
- Social control (informal CPN: -, informal FPN: +/-). To establish medication compliance, monitoring by significant others is essential. This monitoring is the task of the treatment team in the current situation. An outcome of this personal network study was that the brothers are willing to monitor Steven's medicines compliance in his FPN. In line with the concept of social control, a crucial element in Steven's case is his self-control. To which extent has Steven enough self-awareness to recognize and manage his mental health vulnerabilities? Likewise, it is important that if Steven exhibits risky signs of mental deterioration, these signs should be clear for his

personal network members and that they react to signs/triggers for occurrences of his psychotic symptoms. In the current situation, only Steven's boss has sufficient knowledge about mental health issues. In the FPN, the brothers can monitor Steven's behavior in cooperation with formal mental health professionals.

The observed similarities and differences between the composition and network structure of Steven's HPN and CPN/FPN are summarized in Table 4.11.

Table 4.11 shows that negative and protective social network conditions were present that could influence Steven's risk behavior in the next future. The roles and structural positions of the network members in the CPN/FPN were largely the same as those in the HPN. There is still contact between Steven and his ex-girlfriend. In the CPN, there was an additional stressor: the new boyfriend of his ex-partner. It was unclear how Steven would react in confrontation in person with this man. Another stressor in Steven's family domain was his apparent lack of parenting skills. Steven liked to have active involvement in his daughter's life. Continued attention to improve his parenting skills during (ambulant) treatment appeared important.

The analysis indicated that there was still a certain risk that Steven would be negatively influenced by his personal network. To reduce this level of risk, a network intervention was conducted by his treatment team. Both brothers were approached for an intervention: psycho-education. After the brothers had received psycho-education, they restored contact with their brother Steven. They considered him now as a psychiatric patient who needed others for support and they better understood their brother's past and current behavior. The brothers felt motivated to help their brother. An informal agreement between Steven, his brothers and the FPC was composed. If Steven's brothers would observe "strange" behavior of their brother, they would inform the treatment team immediately. After these interventions, Steven successfully visited his brothers regularly when on leave. At the transmural home of the FPC, outside the clinic, Steven was also functioning well. Monthly blood tests were used to monitor Steven's medicine intake. He was an appreciated work colleague and his boss was satisfied with his work. In addition, he had supervised visits to his ex-girlfriend and their daughters.

However, after a while, the oldest brother called the FPC. He and his brother were worried. Steven appeared to have lost grip on reality. He is suspicious about the new boyfriend of his ex-girlfriend. In a very short time, Steven became psychotic again. And in his psychosis, Steven "found evidence" that the current boyfriend of his ex-girlfriend sexual abused his daughters. Based on this information, Steven was immediately brought back to the FPC.

Table 4.11 Comparison between differences and similarities between risk-increasing and/or risk-reducing compositional and structural characteristics in the historical, clinical, and future personal network

A 'x' means that (it is likely that) the characteristics are present. A '?' means that it is difficult to establish whether the characteristics are present. An empty textbox means that (it is likely that) the characteristics are absent.

		HPN	CPN	FPN
Network composition				
Risk-increasing	Friends with forensic risk factors (drug usage, alcohol consumption).	x		?
	Tense relationships with (ex-)girlfriend.	x	x	?
	Jealous and suspicious in the partner relationship.	x		?
	Aggressive and violent in the partner relationship.	x		?
	Lacking in his parenting role (signals of antisocial behavior towards his daughters).	x	x	?
Risk-reducing	Network members with effective knowledge about his diagnosis and risk signals.		x	x
	Personal network members available to provide support for medication compliance.			x
	Friends with protective factors.			?
	To reduce stressors, it is of importance that there is a stable relationship with the mother of his children.			?
Network structure				
Risk-increasing	Fragmentation: no ties between the subnetworks. This implies limitations in mutual social support and social control opportunities. Both are beneficial for medicine compliance and to maximize adherence to the tbs-treatment or future (ambulant) treatments.	x	x	x
	High risk influence of subnetwork with criminal oriented network members (domain: friends).	x		?
Risk-reducing	It is very likely that a closed personal network structure is beneficial in Steven's case: people are highly visible for each other (can see what others are doing). Steven's informal and formal network members can control and monitor together Steven's medication compliance.			

Resume. Based on the personal network analysis, the contact between Steven and his brothers was restored. The brothers were able to observe him outside the clinical setting acting as the eyes and ears of the treatment team. They recognized signals of a new psychosis. Steven returned to the FPC. He confessed that he did not take his medication during the last weeks. He felt insecure because his ex-girlfriend had a new boyfriend. Steven suffered from male erectile disorder, a negative side effect of his medication use.

He mentioned that '*a real man does not use any medication*'. The treatment team had to renew plans with Steven. On a positive note, Steven's brothers will remain involved in future treatment plans.

CHAPTER 5

5

Monitoring risk behaviors by managing social support in the network of a forensic psychiatric patient in mandatory policlinic treatment: a single case analysis

This chapter is a slightly revised version of: Ter Haar-Pomp, L., De Beer, C. Van der Lem, R., Spreen, M., & Bogaerts, S. (2015). Monitoring risk behaviors by managing social support in the network of a forensic psychiatric patient: a single case analysis. Journal of Forensic Psychology Practice, 15(2), 114-137.

5.1 Introduction

Social support is an important concept in personal network studies and is described as positive mutual social interactions between people that meet basic needs such as affection, acceptance and security (Kunst, Winkel, & Bogaerts, 2010). It is common to distinguish several types of social support such as instrumental, practical, informational, or emotional support. A key component of social support is the sense of belonging, feelings of acceptance and being appreciated by others (Gottlieb, 2000; Lindgren, 1990). Social support emerges in intimate relations or relations in which there is a sense of mutual trust; the reciprocity of social support is essential for the support provision (Gleason et al., 2003; Liang, Krause, & Bennett, 2001; Whittaker, 1992).

Social support has physical and mental health benefits (Hirsch, 1980; Holt-Lunstad, Smith, & Layton, 2010; Kumar & Browne, 2008; Robinson & Garber, 1995; Veiel & Bauman, 1992; Vilhjalmsson, 1994). Social support can help individuals to cope with adverse life events (stressors), such as illness, work stress, job loss, death of a loved one, etcetera (Bogaerts, Vanheule, & Desmet, 2006; Cobb, 1976; Cohen & Wills, 1985; Cullen, 1994).

Social support is also known for its risk reducing effect on criminal behavior. A considerable number of empirical studies in criminology and forensic psychiatry have demonstrated that increased levels of social support can result in a decrease of criminal behavior (Colvin, Cullen, & Vander Ven, 2002; Cullen, 1994; Nakhaie & Sacco, 2009; Vance, Bowen, Fernandez, & Thompson, 2002). Social support providers may have critical roles in supporting or discouraging violent behavior (Andrews & Bonta, 1994; Estroff & Zimmer, 1994; McCarthy & Hagan, 1995; Monahan, 1981; Monahan et al., 2001; Shapiro & diZegera, 2010; Warr, 2002). Protective social support is related to self-control and therefore, a lower probability of getting involved in anti-social behavior (Cullen, Wright, & Chamlin, 1999).

Several theoretical explanations are applicable to the relationship between social support and criminal behavior. Agnew (1992) argued in his general strain theory that the presence of conventional social support makes it more likely for people to cope with strain in conventional ways, thereby decreasing the likelihood of deviant coping. The social exchange theory highlights the importance of social support for achieving individual (criminological) goals (Blau, 1964; Cook & Whitmeyer, 1992). Social control theories concentrate on the controlling function of social support. In that respect, these theories see delinquency and crime as result of weak social bonds (Hirschi, 1969; 1977). The Social Capital Theory (Bourdieu 1980, 1985; Coleman, 1988, 1990; Flap, 1999) is based on the social resource hypothesis. The stronger a person is embedded in social

capital that provides him with plenty of resources, the better opportunity a person has to achieve his personal goals.

Because of the benefits of social support on physical and mental health and behavioral outcomes, social support may have an added value in forensic psychiatric practice. In forensic psychiatric risk assessment literature, "social support" is often defined as a dynamic risk management factor (Douglas, Hart, Webster, & Belfrage, 2013; Schuringa, Spreen, & Bogaerts, 2014). Dynamic risk factors are (forensic) behaviors which can be changed by treatment and therefore feasible as treatment goals for interventions to minimize, monitor, and control (future) risk. For instance, in the risk assessment tool, the Historical Clinical Risk Management-20, Version 3 (HCR-20V3), "*Future problems with Personal Support*" is defined as one of the 20 key risk factors (Douglas et al., 2013).

Although social support is a well-established dynamic risk factor, studies that examine the effect of social support on criminal behavior range from an adverse to a risk reducing effect. On the one hand, the availability of social resources such as stable friendships and sufficient social support provides a buffer against criminal behavior (Odonne-Paolucci et al., 2000; Resnick, Ireland, & Borowsky, 2004; Sampson & Laub, 1990; Surjadi, Van Horn, Bogaerts, & Bullens, 2010; Vance et al., 2002). On the other hand, risk increasing effects are found when negative social support is provided (Coyne, Wortman, & Lehman, 1988; Bolger Zuckerman, & Kessler, 2000; Buschman et al., 2010). For instance, if social supporters lack the skills or insights to be prosocial helpful. In forensic psychiatric settings, this includes for example, network members who advise a patient not to take his prescribed medications.

There is still limited understanding about how social support and the construction of positive and risk reducing personal networks can help forensic psychiatric patients to prevent and reduce criminal behavior (Monahan et al., 2001). It can be expected that close protective relationships with friends, family, or other support groups, will reduce the probability of criminal behavior. In this chapter, a case of an ADHD male patient who was monitored for 10 weeks during mandatory forensic psychiatric outpatient care is described. The focus is specifically on the developments in the degree of social support among his network members in relation to risk management issues. To collect personal network data the FSNA data collection instrument as described in Chapter 2 has been applied.

5.2 Method - The present case study

5.2.1 The institutional setting

This case study was conducted in forensic psychiatric outpatient and day treatment center 'het Dok', situated in Rotterdam, the Netherlands. This center had a special unit for forensic patients with Attention Deficit Hyperactivity Disorder (ADHD) and co-morbid psychiatric disorders. In recent years, drop out and less treatment progress was identified as an issue for forensic patients with ADHD. The ADHD-unit 'het Dok' provided forensic psychiatric care on a mandatory or voluntary basis. The treatment consisted of 4 steps: 1) Registration: patients could be registered by referrers including probation officers, general practitioners, youth care workers, mental care authorities (In Dutch: Geestelijke GezondheidsZorg (GGZ)), courts of justice, community health services (In Dutch: Gemeentelijke GezondheidsDiensten (GGD)), psychiatrists and other specialists; 2) Intake: the patient was invited for an intake within three weeks. During intake, offense characteristics, psychopathology and static and dynamic risk factors were inventoried by a psychiatrist, clinical psychologist and a social worker; 3) Advisory meeting: in the presence of the patient, treatment was discussed and indicated and 4) Treatment: the treatment consisted of individual therapy or group therapy. Individuals from the direct environment of the patient were also invited to be involved in the treatment.

ADHD is characterized by a pattern of behaviors present in multiple settings (e.g., school and home), that can result in performance issues in social, educational, or work settings (American Psychiatric Association, 2013). ADHD symptoms are divided into two categories, i.e., inattention and hyperactivity (APA, 2013). Epidemiological studies assess the prevalence of ADHD in adult forensic psychiatry at 25% (e.g., Kooij, 2009). The overall prevalence of ADHD in the general adult population is about six times lower (around 4.5%) than in adult forensic samples (Henrichs & Bogaerts, 2012; Kessler et al., 2006). Adults with ADHD are often confronted with negative outcomes on a range of long-term life skills. For example, they act impulsively and experience concentration and planning problems (May & Bos, 2000). They are often looking for challenging situations and take risks to improve their concentration, often use drugs and alcohol, and are restless by nature. These typical characteristics of ADHD can lead to problematic social and intimate relationships. Therefore, it is important to examine the personal networks of adults with ADHD on their functional and dysfunctional influences on their individual risk behavior. It is known that individuals with ADHD are more likely to misinterpret activities of others and tend to respond inappropriately (Kooij, 2009). Maintaining relationships across the lifespan can be extremely difficult for persons with ADHD. For example, Toner, O'Donoghue, and Houghton (2006) showed that individuals with ADHD had more marital problems and higher rates of divorce.

5.2.2 Selected patient

For the present case study, a forensic psychiatric male patient was selected from the FSNA pilot study (see Chapter 2). In this pilot study, ADHD forensic psychiatric male patients from 'het Dok' were interviewed to examine the impact of their personal social support informal networks on their risk behaviors in the run-up to the offense, treatment and after treatment. This selected patient – whose pseudonym is Peter – was the first patient who participated in the study. Taking part in the study was voluntary. Peter agreed, by signing an informed consent form, that his anonymized personal network data could be used for scientific research and a scientific report/paper. Peter is a 31-year-old man who was indicated for cognitive behavior treatment in the ADHD-unit. Peter was convicted of attempted murder of his mother. He was sentenced by the Court to treatment because of his aggression problems and poor impulse control during interpersonal conflicts. The reason for the attempted murder of his mother was a conflict between the two. In a moment of anger, Peter did put his hands around her neck. Peter was diagnosed with ADHD, a borderline personality disorder and cannabis dependence. Peter was assessed as having an average intelligence level according to the Wechsler Adult Intelligence Scale (WAIS)-III. In addition, it became clear that Peter had financial, work- and housing problems.

5.2.3 Treatment

The focus of treatment was to improve Peter's impulse control to stop his aggressive outbursts. Peter had individual therapy sessions with a psychologist to assess the scope and causes of his aggressive behavior. They discussed Peter's adherence to treatment and medication. Furthermore, Peter received support for his psychosocial problems. Peter's girlfriend and his mother were present at different therapy sessions. They were asked to evaluate the severity and frequency of Peter's aggressive behaviors. Peter's mother and girlfriend discussed with Peter and his social worker de-escalation strategies. As part of the treatment, Peter had started taking ADHD medication. Effective medication is a vital aspect of treatment of ADHD (Weiss & Weiss, 2004). Without medication, patients can insufficiently profit from the psychological treatment because their attention and concentration fall short; often this leads to treatment drop-out.

5.2.4 Measures

During Peter's treatment, personal network interviews were conducted at three different times. The first measurement was a retrospective face-to-face interview with Peter and two of his network members, namely his mother and girlfriend. In this interview, Peter, his girlfriend, and mother were asked to disclose personal network information during the period of the offense and at the time of the interview. The second and third interview were planned four and eight weeks later to monitor changes in the network of Peter. However, the third FSNA interview appointment was cancelled by Peter several

times and eventually took place after six weeks instead of the prearranged four weeks. The interviews were conducted by a trained social worker in the FSNA data collection method.

5.2.5 Triangulation

The electronic patient's file (EPF) of Peter was used to collect personal and forensic psychiatric characteristics. In general, EPF improves the quality of dossier documentation and viewing, recording of prescriptions, messaging, and organization of accumulated patient data (Miller & Sim, 2004). Research confirms the benefits of EPF with regard to 'quality of care' coordination, additional decision support and patient satisfaction (Zhou et al., 2009). Criminal records were used to gain insight into Peter's criminal history.

To analyze the extent to which social relationships in Peter's personal network changed during treatment, the following FSNA variables, amongst others, were collected during the interviews with Peter and his two network members: network size (the total number of network members), network roles (family/friends, others and victims and co-offenders) and the total number of network members who gave social support (0 = no, 1= yes). Categories of social support were practical (domestic help) emotional (seeking advice from) and financial (borrowing money from others) support.

The forensic risk characteristics of Peter's network members were criminal record, psychiatric problems, drugs, alcohol, financial problems and problematic lifestyle (e.g., housing problems, and conflicts with others). Peter was requested to give his perception about the nature of the relationships between his network members. The information was scored in dichotomous terms of contact and no contact.

5.2.6 Statistical analysis

To illustrate changes in Peter's network configurations over time, the visualization tool NetDraw was used (Borgatti, Everett, & Freeman, 2002). Data were analyzed using SPSS 20.0. Structural characteristics of Peter's personal network, such as the patterns of direct relations between the patient and his network members and between his network members were examined by using the triad census method of Kalish and Robins (2006) (see for more details: subparagraph 1.4). In Chapter 3, a classification of six different types of triads was used. In this study, 20 different types of triads were classified. The triads were defined on three variables, 1) *the existence of a tie* between two network members was defined as the existence of a contact between these persons (Peter had ties with both network members per definition), 2) whether a network member had one or more *risk factors* including criminal record, psychiatric support, drug use, alcoholism and a problematic way of living, and 3) whether Peter had listed a network member as a *social supporter* (practical, emotional, and financial). Figure 5.1 presents the resulting

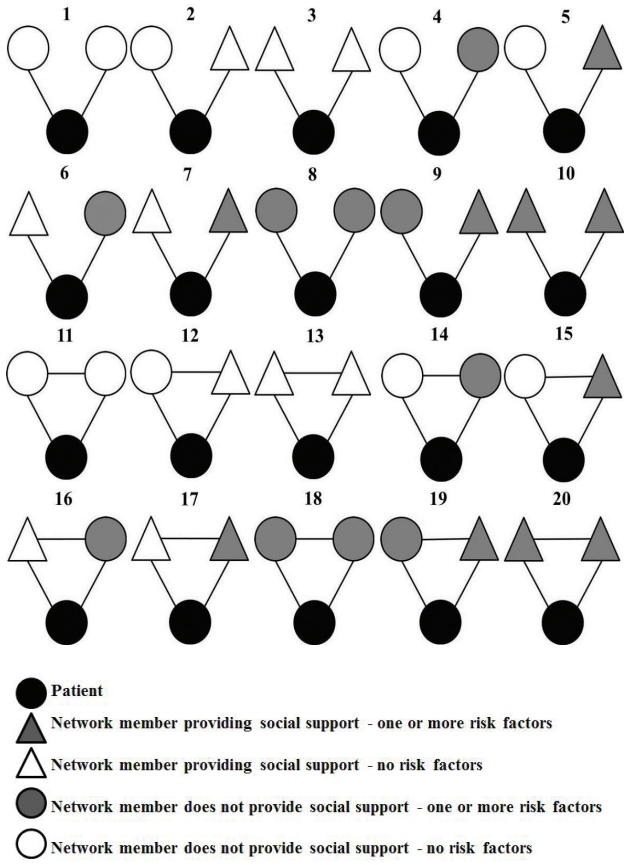


Figure 5.1 Twenty triads: social support – low and high risk network members

triad census classified by 20 triads. Network members without forensic risk factors are presented as white nodes; network members with one or more forensic risk factors are presented as grey nodes (these are people who have a criminal record, psychiatric support, drug use, alcoholism and/or problematic way of living).

Each type of triad has its own risk management interpretation in relation to risk. In general, the risk interpretation of a triad depends on the patient's individual risk factors. For instance, receiving social support from drugs users is riskier for a patient with drugs problem than for a patient without drug problems (Monahan, 1981). The collective influence of the personal network members on Peter results not only from direct bonds between Peter and each network member, but also from relationships between his network members (Milardo, 1986). From that perspective, triad 20 with ties between high risk social supporters is defined as most risky for Peter. Triad 13 is most desirable for him, because the two social supporters have a collective protective influence. In

relation to Peter's individual risk management, the riskiest triads consist of social supporters with similar or more severe forensic and psychiatric problems. This includes network members with aggression problems, poor impulse control (ADHD), personality disorders (borderline), cannabis dependence, financial, work and housing problems. The influence of a social supporter on Peter's behavior may differ between the three types of social support. For instance, seeking advice from a criminal friend may have a different impact on Peter's behavior than borrowing money from the same criminal friend. The triads can be labeled "high risk", "low risk" and "protective" to provide the professional guidelines to interpret network changes in terms reducing risks. In Peter's case, five triads were labeled as high risk:

- Two high risk social supporters are connected (triad 20);
- Two high risk social supporters are not connected (triad 10);
- One high risk social supporter connected with a high risk network member who does not provide social support (triad 19);
- One high risk social supporter not connected with the other network member who does not provide social support (triads 5 and 9).

Three triads were labeled as protective:

- Both social supporters have no risk factors and are connected (triad 13);
- Both social supporters have no risk factors and are not connected (triad 3);
- One social supporter without risk factors connected with a low risk network member who does not provide social support (triad 12).

The other triads were labeled as low risk, because we expected that they would have a limited influence on Peter's risk behavior. These triads were 1, 2, 4, 6, 7, 8, 11, 14, 15, 16, 17, and 18. It is important to note that some of these triads can easy change in protective or high risk. For instance, triad 18 consists of network members with high risk factors, but these persons do not provide social support. If they become social support providers, their low risk label would change to that of high risk.

A triad census was compiled based on the 20 types of supporting and non-supporting triads and transformed into a vector of triad proportions to allow comparisons between the four time points. Spearman's Rho was used to analyze change within the vector of triad's proportions. For each time point, the 20 triads were ranked from low to high based on the proportion present. A positive coefficient implies that the frequency distribution of the triad types overall had not changed. A coefficient of '1' is given when nothing changed between two time points. A negative coefficient indicates that triad types with a high proportion at time point one have a low proportion at time point two, i.e., there has been overall a change between the two measurements. A coefficient of '-1' means that the frequency distribution is reversed between two time points (the highest

ranked triad at time point one is the lowest ranked triad at time point two). Finally, a coefficient close to '0' implies that there is a change but rather random.

5.3 Results

The purpose of the case study was to examine whether the distribution of the different supporting and non-supporting triads changes within the personal network of Peter between the four points of measurement (crime (T1), at the start of therapy (T2), 4 weeks (T3), and 10 weeks after starting treatment (T4).

5.3.1 Changes in network size, network roles and risk factors

The total persons within Peter's network varied from 8 at T1, 9 at T2, 10 at T3 and 9 at T4 (range 8-10). In the build-up to the offense, Peter's informal network consisted of three family members (mother, sister, and stepfather), one girlfriend, three friends, and one neighbor. Focusing on the risk factors of the network members, his mother suffered from psychiatric problems, his girlfriend had financial problems, the neighbor had alcohol problems, and his three friends had criminal records and drug problems. At time point two, Peter added his father to the informal network who suffered from psychiatric problems. At time point three, Peter added his job coach (no risk factors) to his network. At time point four, the contact with the job coach had ended. It is important to note that the victim of Peter's offense, his mother, was part in all four measurements.

5.3.2 Changes in Peter's practical support

Figure 5.2 shows that the number of individuals that Peter could ask for practical support increased from seven network members at time point one to eight network members at time point two. In Peter's offense period, five of seven practical supporters had risk factors; at time point two (during treatment) six of eight practical supporters had risk factors. The network at time point three shows an important change: only two of the eight practical supporters at time point two remained listed by Peter as practical supporters: his girlfriend (risk factor: financial problems) and his job coach (no risk factors). At the end, time point four, Peter had no practical supporter left.

Table 5.1 shows that the changes in the number of practical supporters also affected the distribution of the 20 triads in the practical support network over time. As mentioned in the statistical analysis section, triad 20, with ties between high risk social supporters, was defined as the riskiest for Peter (high risk triad). The proportion of triad 20 decreased from .28 (time point 2) to .00 (time point 3). Focusing on the quality of his social support, this is a positive finding for risk management: strong social ties with high risk network members can have negative effects if risky behavior is promoted. Triad 13 was defined

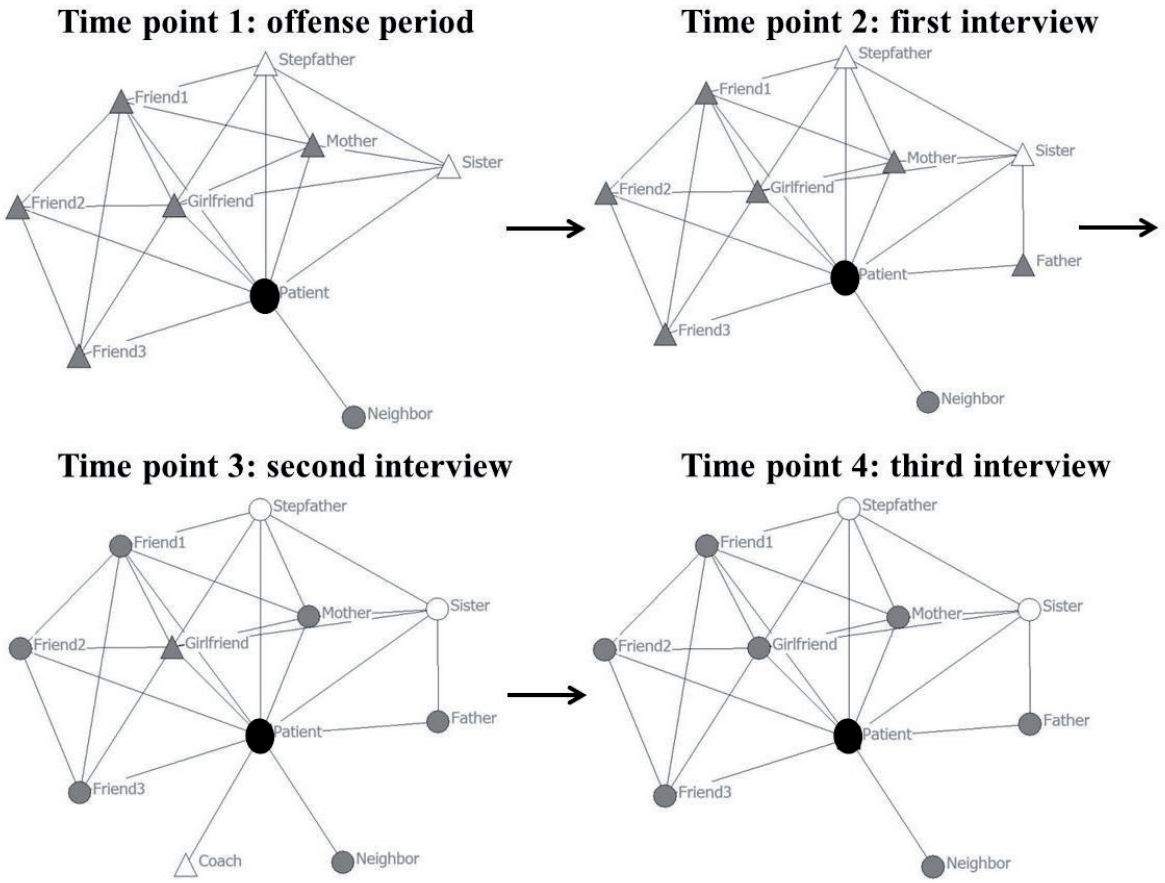


Figure 5.2 Practical support during the four measurements; caption see Figure 5.1

Table 5.1 The changes in the proportions of the 20 triads in the practical support network (four time points)

Type	High risk triads					Protective triads			Low risk triads											
number	5	9	10	19	20	3	12	13	1	2	4	6	7	8	11	14	15	16	17	18
T1	.00	.18	.07	.00	.29	.00	.00	.04	.00	.00	.00	.07	.18	.00	.00	.00	.00	.00	.18	.00
T2	.00	.17	.14	.00	.28	.00	.00	.03	.00	.00	.00	.06	.17	.00	.00	.00	.00	.00	.17	.00
T3	.00	.04	.00	.09	.00	.00	.00	.00	.00	.04	.18	.13	.02	.24	.02	.09	.04	.00	.00	.09
T4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.25	.00	.00	.33	.03	.17	.00	.00	.00	.22

as the most desirable for Peter (protective triad), because the two social supporters have a collective protective influence. The proportion of triad 13 decreased from .04 (time point1) to .00 (time point 3). Based on these findings, the treatment team needed to discuss with Peter how a) to retain the low proportion of high risk practical supporters in his network, b) to deal with the loss of practical supporters, and c) to establish strong practical support ties with protective networks.

To statistically summarize the observed changes, between the four time points, Spearman's rho was used as an indicator of change. Spearman's rho revealed a statistically significant relationship between time point one and time point two ($\underline{\rho} = .999$, $p < .01$) and time point three and four ($\underline{\rho} = .649$, $p < .01$), implying that the ranking of the 20 triad types based on the occurrence of their frequencies between these time points were almost stable. No correlation was found between the other time points: one-three, one-four, two-three and two-four. The network configurations between these time points were independent of each other and the distributions of the triads had (randomly) changed. For example, between time points two and three, important changes in the triad distribution were estimated. Peter's practical support network decreased from eight at time point two (first FSNA interview) to two at time point three (second FSNA interview). These observed changes had implications for Peter's risk management. Focusing on the available quantity of social support, the observed decrease is negative for his accessibility to social resources.

5.3.3 Changes in Peter's emotional support

Figure 5.3 shows that the number of individuals Peter would ask for emotional support increased from six network members at T1 to eight network members at T2. At the time of his offense, four of his six emotional supporters had risk factors. At time point two (during treatment) six of his eight emotional supporters had risk factors. The personal network configurations at time point three and four showed an important change for Peter; no network member remained as an emotional supporter as depicted by the lack of emotional social support triads at time points 3 and 4.

The changes in the distribution of the 20 triads in the emotional support network are shown in Table 5.2. On the positive side, the proportion of the high risk triads 9, 10, 11 and 20 were decreased at time point 3 to .00. On the negative side, the only available protective triad at time point 1 and 2, namely triad 13, disappeared at time point 3. This resulted in important issues for Peter's risk management: the amount of emotional support in his network was decreased (negative condition), which also resulted in a decrease of high risk emotional support triads (positive condition). From a risk management perspective, it was a negative finding that Peter no longer received emotional support from his personal network members. Based on these findings, the

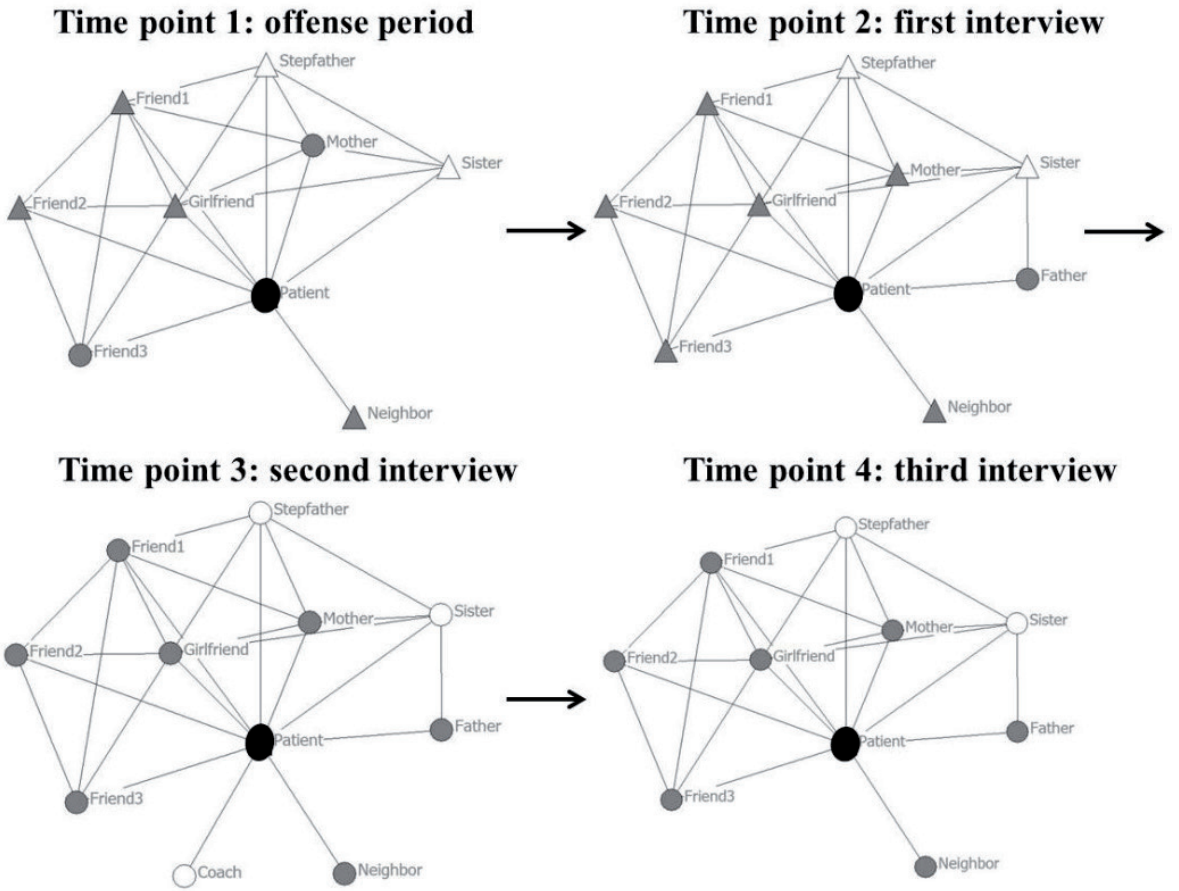


Figure 5.3 Emotional support during the four measurements; caption see Figure 5.1

Table 5.2 The changes in the proportions of the 20 triads in the emotional support network (four time points)

Type	High risk triads					Protective triads			Low risk triads											
Number	5	9	10	19	20	3	12	13	1	2	4	6	7	8	11	14	15	16	17	18
TP 1	.00	.11	.11	.18	.11	.00	.00	.04	.00	.00	.00	.07	.18	.04	.00	.00	.00	.07	.11	.00
TP 2	.00	.22	.14	.00	.22	.00	.00	.03	.00	.00	.00	.03	.19	.00	.00	.00	.00	.03	.14	.00
TP 3	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.31	.00	.00	.29	.04	.16	.00	.00	.00	.18
TP 4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.22	.00	.00	.36	.03	.17	.00	.00	.00	.22

treatment team wanted to discuss with Peter how he could receive emotional support from protective network members. To statistically summarize, Spearman's rho revealed a statistically significant relationship between five of the time points: one-two ($\underline{\rho}$ = .790, p < .01), one-three ($\underline{\rho}$ = -.460, p < .05), two-four ($\underline{\rho}$ =-.448 p < .05) and three-four ($\underline{\rho}$ = .934, p < .01). Between time points one-three and two-four negative coefficients were found. This indicates that the values of the two time points vary in opposite directions. For example, at time point one, triad four was not included in the triad census, at time point three triad four was counted fourteen times (proportion of .31). Another example, time point two showed for triad 20 a network proportion of .22, at time point four, triad 20 was no longer present. No correlation was found between time points one and four. The network configurations were independent of each other and the distributions of the triads had changed between time points one and four.

5.3.4 Changes in Peter's financial support

Figure 5.4 shows that the number of individuals Peter would ask for financial support remained stable as depicted by three connected social support providers at time point 1 and two connected social supports at time points 2, 3 and 4. At T1, the three financial support providers were his girlfriend (risk factor: financial problems), mother (risk factor: psychiatric problems) and stepfather (no risk factors). At T2, mother was not listed any longer as financial support provider.

The general composition of the network triads turned out to be rather stable, see Table 5.3. For example, the network proportion of high risk triad 20 at time points two, three and four was .00. The high risk triads 10 and 19 were present in all four financial support networks. The protective triad 12 was rather stable over time. It was important that the social worker discussed with Peter and his girlfriend how to deal with his financial problems, because the girlfriend was an important financial supporter over time but she had similar financial problems as Peter. It is likely that she lacked the appropriate skills herself to be helpful to Peter in financial management.

The stability in financial support is reflected by Spearman's rho. Statistically significant positive relationships between all defined time points were found: one-two ($\underline{\rho}$ = .670, p < .01), one-three ($\underline{\rho}$ = .591, p < .01), one-four ($\underline{\rho}$ = .670, p < .01), two-three ($\underline{\rho}$ = .929, p < .01), two-four ($\underline{\rho}$ = 1.00, p < .01) and three-four ($\underline{\rho}$ = .929, p < .01).

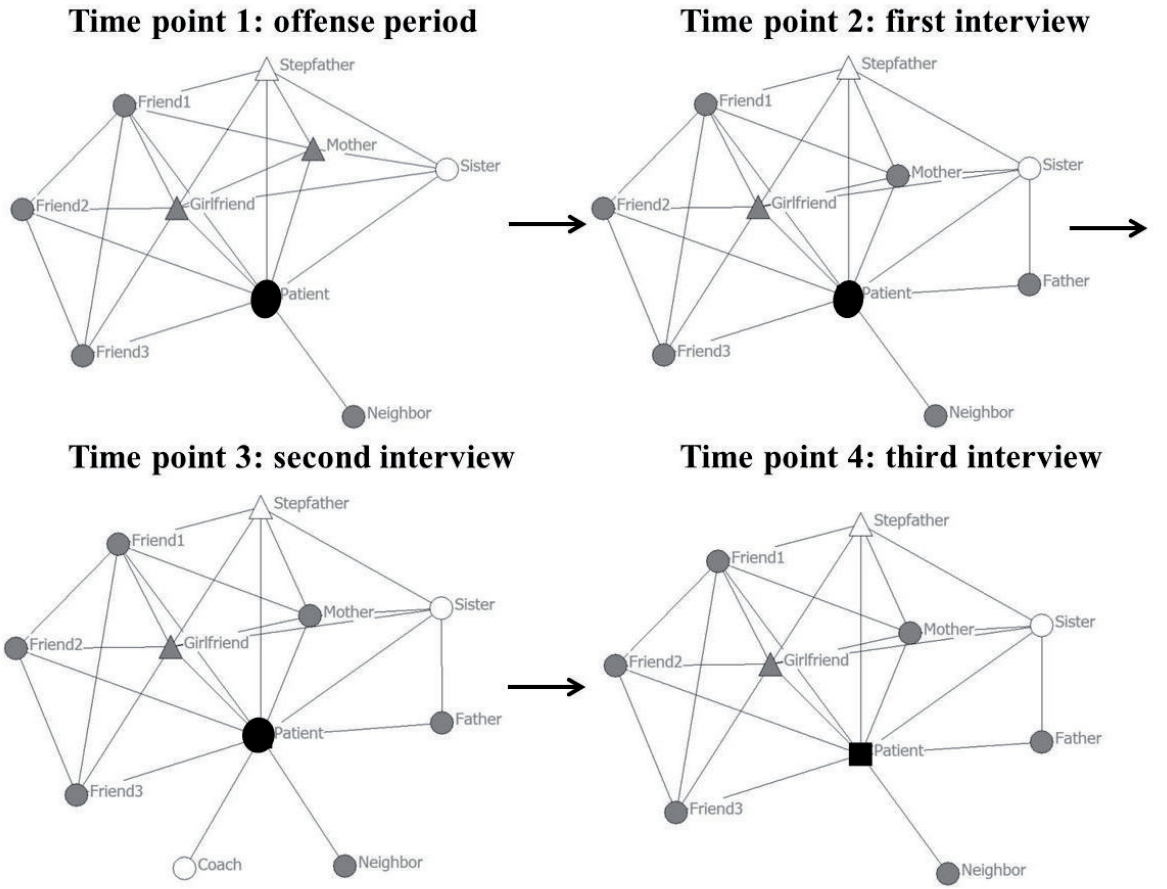


Figure 5.4 Financial support during the four measurements; caption see Figure 5.1

Table 5.3 The changes in the proportions of the 20 triads in the financial support network (four time points)

Type	High risk triads					Protective triads			Low risk triads											
Number	5	9	10	19	20	3	12	13	1	2	4	6	7	8	11	14	15	16	17	18
TP 1	.00	.14	.00	.14	.04	.00	.04	.00	.00	.00	.14	.11	.00	.00	.00	.00	.07	.04	.07	.21
TP 2	.00	.06	.00	.11	.00	.00	.03	.00	.00	.00	.11	.11	.00	.31	.00	.06	.03	.06	.03	.11
TP 3	.02	.04	.00	.07	.00	.00	.02	.00	.02	.02	.24	.07	.00	.24	.00	.04	.02	.04	.02	.11
TP 4	.00	.06	.00	.11	.00	.00	.03	.00	.00	.00	.11	.11	.00	.31	.00	.06	.03	.06	.03	.11

5.4 Discussion

The overall goal of this case study was to assess the role of network members in supporting or discouraging the patient from living a crime-free life. The FSNA data collection instrument was applied as an instrument to measure and monitor changes over time in positive and negative social support on the individual level. The social support network of a forensic psychiatric patient with ADHD, borderline personality disorder and cannabis dependence was examined and monitored over time (prospective).

This personal network case study was the first conducted in an outpatient forensic psychiatric setting. Earlier personal network research using the FSNA data collection instrument was focused on personal networks of forensic psychiatric patients during their incarceration in a forensic psychiatric hospital setting (Chapters 3 & 4). This study shows the benefits of interviewing the patient and his network members repeatedly: important social support dynamics were uncovered. We found that personal network changes over a short period of time can differ between the three types of social support; On the one hand, the sizes of the practical and emotional support networks significantly decreased during treatment. On the other hand, the number of financial supporters remained almost stable.

From literature it is known that a stable social support system is characterized by enough network members that cover various kinds of social support (Walker, Wasserman, & Wellman, 1994). This study used a triad census method in which social supporters, their structural network position and their 'risk' were combined and labeled. The triads were labeled "high risk", "low risk" and "protective" to provide the professional guidelines to interpret network changes in terms of reducing risks. The study shows that the triad census method provided relevant insights in the meaning of the observed decrease in social support in the context of individual risk management. For example, a decrease in practical and emotional support (negative condition), resulted in a lower proportion of the high risk triads in the patient's social support network (positive condition). The therapist of this patient mentioned two possible explanations for the decrease in social support from his personal network members. First, treatment intensity and contact with 'het Dok' may have reduced the need for social support from other sources. In other words, there was a shift from informal to formal network contacts that can be temporarily positive. Second, the patient started taking ADHD medication. As a result, the patient showed less impulsive behavior. Unfortunately, the medication also had negative side effects: the patient experienced more emptiness and depression and he mentioned that he needed distance between him and his important informal social supporters. If this triggers a shift towards seeking social support from formal network members, it can positively influence the treatment outcomes. It is known that a positive relation-

ship between patient and his mental health care professionals positively influence the patient's motivation, his compliance with the rules and treatment outcomes (Skeem, Encandela, & Eno Louden, 2003; Skeem, Eno Louden, Manchak, Vidal, & Haddad, 2009). However, the finding that a patient relies less on his personal network during treatment requires attention: over time, formal network members must be (partly) replaced by new, informal network members. The patient's informal social supporter network will be part of his life after supervision and may play a significant role in the success of treatment in the long run (Shapiro & diZegera, 2012). This means that both formal and informal relationships must be considered to understand the influence of the social support system on the patient's (risk) behavior.

An important observation in the study was that the victim of the patient's offense - his mother - was still part of his personal network during treatment. It is of great important for her wellbeing and safety to identify and respond to her possible needs and to establish whether she is still at risk.

The findings show that the network size of patient's total personal network remained almost stable. Not being named as a social supporter at a certain period did not mean that these network members were no longer part of the patient's personal network. This raises the interesting question which future research should address: whether network members who disappeared from the social support network return to the social support network at a later stage in treatment.

The limited research period for this study, makes it hard to establish whether the reduction of (high risk) practical and emotional supporters will be permanent. Future research should examine a larger number of ambulant forensic psychiatric patients with multiple measurements over a longer period.

This study has focused on one forensic psychiatric patient across a short period (10 weeks). Other patients with different mental health problems and/or offenses may have other profiles with their own unique social support factors and related triads. Each case requires a thorough study of possible positive and negative social support factors. Subsequently, such a study requires time and the expertise of the appointed professional.

CHAPTER 6

6

Discussion

6.1 Introduction

The study of criminal risk behavior related to social network factors has been of interest to researchers and clinical practitioners for many years. The point of departure for this dissertation was the knowledge gap concerning how to sample, analyze, and interpret personal social network factors in a single forensic psychiatric patient in clinical practice. Theoretical and practical tools were lacking for professionals who had to include social network factors in the risk management assessments of individual patients. A systematic overview of individual specific social risk factors is essential for forensic psychiatric professionals such as social workers, psychiatrists, and psychologists as input for treatment decisions and risk reduction strategies.

In the previous chapters, the overarching research question of this thesis was addressed:

To which extent and in what respect can a personal network approach contribute to a more comprehensive understanding of the risk behavior of forensic psychiatric patients?

This concluding chapter starts with a summary of the main findings and the strengths of the research regarding the added value of a personal network approach to the forensic clinical practice (6.2). Next, I reflect on the limitations of the applied studies and propose some suggestions for future research (6.3). Finally, in the last sections, I will discuss the practical implications of this dissertation for social work professionals (6.4) as well as for policy makers and decisionmakers (6.5).

6.2 Main achievements and strengths

In order to answer the overarching research question the strengths of the conducted Forensic Social Network Analysis (FSNA) approach are presented in the following.

The 'overall' strength of this dissertation is that it has brought theoretical, methodological, and practical knowledge from various disciplines together in a personal network approach. To our knowledge, no earlier research has clearly linked general network theory to a personal-centered network approach in a forensic psychiatric context. As the risk assessment and -management literature has shown (Chapter 1), the combination of factors explaining criminal offenses varies greatly across individuals (Andrews & Bonta, 1994; Bem & Funder, 1978; Delisi, 2005; Monahan, 1981; Sampson & Laub, 2005). We have argued that no single (social) theory can perfectly explain and predict at the individual level how and why forensic psychiatric patients commit severe offenses.

We selected four relevant social theories that may explain risk behavior (social influence, social capital, social support and social control) and combined these theories with network composition (the distribution of risky and protective characteristics of network members) and network structure (the protective and risky relational patterns between patients and network members and between network members themselves). This enabled us to qualitatively weight the specific consequences of protective or risky network compositions and structures in the patients' individual risk assessments.

The FSNA approach was introduced in Chapter 2. The core of this approach is to systematically answer the following three basic questions:

1. *Which network members/personal relationships are supposed to have a risk-increasing and/or a risk-reducing (protective) influence on patient's behavior in the run-up to the crime?*
2. *Which network members/personal relationships are supposed to have a risk-increasing and/or a risk-reducing (protective) influence on patient's behavior in current and future social situations?*
3. *What are the differences and similarities between the risk-increasing and/or risk-reducing roles network members have on patient's behavior in current and future risk-increasing social situations compared to those in the run-up to the crime?*

The three questions are based on previous work of Bem and Funder (1978) with the aim of systematically comparing, analyzing and interpreting patients' Clinical Personal Networks (CPNs) in light of their past Historical Personal Networks (HPNs), and to predict their likely Future Personal Networks (FPNs). To answer the three research questions, the FSNA data collection instrument was introduced. This data collection method is qualitatively-oriented with a strong focus on individual storylines to achieve a better understanding of how forensic patients conceptualize their actions and what motivates and deters them from risk-taking behavior (Agnew, 2006). The items of the FSNA data collection instrument were extracted from the risk assessment, risk management and social network theories presented in Chapter 1. Consistent with the personal network concepts introduced in Chapter 1, the network parameters: 'network size', 'network composition', and 'network structure' were included in the FSNA data collection instrument. Semi-structured FSNA questionnaires for the patients and their network members were developed to gather relevant and sufficient risk management data to get a complete picture of the patients' HPNs, CPNs and FPNs and to be able to answer our FSNA basic questions.

We used the FSNA approach to assess the personal networks of forensic psychiatric patients over time at both the group level (Chapter 3) and the individual level (Chapters 4 & 5).

Hence, our first achievement is:

The FSNA approach enables idiosyncratic well-balanced qualitive risk assessments

The results of the four case studies (Chapters 4 & 5) showed that the FSNA approach enables idiosyncratic well-balanced qualitive risk assessments. We were able to explain different types of personal network contexts/configurations in which the patients had been violent in the past and identified network contexts/configurations where they were more likely to be violent in their Future Personal Networks (FPNs). The case studies showed that we were able to qualitatively assess all four patients with a combination of compositional and structural risk factors related to theoretical social concepts. Interestingly, the results, based on the sampled network compositions and structures, differed for each patient. For example, in one case study, a similar pattern was found in the patient's HPN, CPN and FPN, namely being socially influenced by his subnetwork of friends with pro-criminal attitudes (Chapter 4: case study 1). There were too few network members embedded and available with a prosocial attitude/lifestyle to effectively counterbalance for the risk assumed. Therefore, we concluded that there was still a high level of future risk. The results of this FSNA study were consistent with the well-established "Big Four" risk factors (i.e., criminal history, antisocial personality pattern, pro-criminal attitudes, and antisocial associates (Andrews & Bonta, 1994; Bonta & Andrews, 2007; Bonta, Blais, & Wilson, 2014)). In another FSNA study (Chapter 4: case study 2), we noticed a shortcoming of both the content of the personal relationships and the present network structure. The patient was not able to solve these issues in a legal way at the moment of his criminal behavior. His risk behavior seemed be related to his relational problems and desire to feel an emotional attachment with a female significant. This is in line with the well-established risk factor 'history of problems with intimate relationships' (De Vogel, De Vries Robbe, Bouman, Chakhssi, & de Ruiter, 2013; Douglas, Hart, Webster, & Belfrage, 2013). We argued - despite the presence of prosocial network members in his CPN - that his current network configuration implied future risk, due to a risky compulsive need to achieve affection through an intimate relation with a female significant other.

Overall, our case studies showed that critical social triggers leading to criminal acts remained the same despite undergoing treatment. From a forensic treatment perspective, this is an important point of attention: even if actors and social contexts have changed, but the compositional and structural network characteristics have remained the same, it still has to be considered whether the level of risk has changed. It is therefore questionable whether the treatment of our studied patients has been sufficiently effective so far.

The second achievement reads:

The FSNA approach provides additional risk management information from different angles and perspectives to support treatment decisions

In all studies conducted, the FSNA data was collected systematically by studying the patient's file and interviewing both the patient and his significant others. The use of various data sources (data triangulation) provided important information for risk management from different angles and perspectives. The strong focus on the perspectives of the patients and their significant others provided insights into how all individuals involved conceptualize the patient's risk behaviors (i.e., narrative diagnosis). For instance, the case studies revealed to what extent the views of patients and their network members on diagnoses were aligned with the established clinical diagnostics. This was evident in the first case study (Chapter 4), where a mother stated that her son's behavior is typical for persons who are possessed by evil spirits. She also suggested that healing from these symptoms could only take place if these evil spirits were exorcised. Such observations from different perspectives between the treatment team and network members contain crucial information for risk management purposes and warrant careful consideration in further treatment.

Additionally, data triangulation has decreased the influence of intrinsic bias that may arise from single methods or single respondents/observers. The three case studies (Chapter 4) revealed that important risk factors would not have been identified in cases where the FSNA approach was not applied or in cases where the FSNA researcher solely used one FSNA data source. For example, if we would have only used self-report information from the patient, we would not have concluded that one patient (Chapter 4: case study 1) overestimated his (criminal-oriented) friendships and therefore not intrinsically motivated to take his antipsychotic medication. It would also not show that some of his network members were still in contact with two former criminal friends. We argued that the encountered structure implied risk because this patient still highly valued criminal oriented others in his CPN. Furthermore, the case studies showed that the information from the professionals, patients, and network members were often not congruent. For example, in some cases, patients rated their social support networks as strong, while the interviews of the network members showed a completely different outcome. It is exactly this inconsistency that can provide important input for the treatment.

The treatment teams have used the additional FSNA knowledge in their decision-making process. In the case studies about forensic psychiatric inpatients (Chapter 4), the treatment teams used the FSNA results to assess whether the patients had made sufficient progress to enter the next phase of treatment. In the first case study, the unsupervised

leave already granted has been scaled down a level (from unsupervised to supervised leaves). In the second case study, the application for leave was not submitted at all. The third case study showed that the participating network members were able to observe and monitor the patient outside the clinical setting acting as the eyes and ears of the treatment team. Based on their information, the patient temporarily returned from the transmural care unit into the FPC. In the case study of the forensic psychiatric outpatient (Chapter 5), the treatment team decided to continue to monitor the patient's (in-)formal social support function during the patient's mandatory treatment.

Notably, the additional FSNA information on risk management provided important input for personalized risk management interventions. For example, several case studies advised more involvement of family members in the patient's care, more psycho-social family support (i.e., psycho-education), and to include longitudinal assessment of the support system in the patient's risk management plan.

The third achievement is as follows:

The FSNA findings enrich our empirical understanding of the risk behavior of forensic psychiatric patients

The FSNA findings contribute to a more comprehensive understanding of the role of personal networks in the risk behavior of forensic psychiatric patients over time. We were able to study the network compositions and network structures of our research population (Chapters 3 & 4: inpatients with a tbs-order; Chapter 5: a patient with mandatory forensic outpatient care).

Chapter 3 described and compared the patients HPNs and CPNs in a sample of personal networks of personality disordered forensic psychiatric patients.

Historical Personal Network (HPN). This small descriptive study revealed that the HPNs sizes of the 36 studied patients were on average relatively small (an average personal network size of 15). The main part of an average network in this study consisted of family members and this is in line with findings from some previous smaller Dutch forensic psychiatric studies (Ellenbroek, 2000; Greeven, 1997; Pol, 1995). A slight majority of the patients knew their victims. This study showed like previous findings in this area (Nordstrom & Kullgren, 2002), that family members have the highest risk of becoming victims of the committed offenses.

On average, the HPNs consisted for a relatively small part of network members with forensic risk factors, such as ties to criminally oriented network members. The study

findings also showed that most of the patients studied were able to have stable and intimate relationships in the period prior to the offense(s). This finding partially contradicts the Social Control Theory (Hirschi, 1969, 1977), which states that crime occurs more often when social ties are weakened or not well established.

Our study in Chapter 3 also opposed previous empirical research showing that people with personality disorders were less able to maintain social relationships (Estroff et al., 1994). Most of our studied patients reported long-term relationships. However, most of the studied patients experienced one or more stressful relationship(s) in their HPNs, which is more consistent with findings regarding relational difficulties of people with psychological disorders (Clifton et al., 2009; Savard et al., 2006).

Network changes between Historical Personal Networks (HPNs) and Clinical Personal Networks (CPNs). The small descriptive study in Chapter 3 showed that the patients' personal networks underwent some transformations over time. It was found that - on average - the network sizes of the studied patients decreased in time. The clinical networks were composed of fewer family members, friends and other contacts (lower role diversity). Family members remained the largest subgroup in the CPNs. A small portion of the CPNs contained new personal relationships, which is not in line with the theoretical notions of proximity (Allan, 1979; Feld & Carter, 1998), homophily (McPherson, Smith-Lovin, & Cook, 2001) and the Social Breakdown Syndrome (Gruenberg, 1967), where one would expect that the forensic care center as local meeting place, is important for the development of new ties.

Interestingly, the observed reduction in network size does not seem to have a major impact on the quality of the personal networks. It might sometimes even be considered beneficial for patients' risk management, because in some cases important potential stressors were no (longer) part of the patients' CPNs. For example, a valuable finding of this study was that smaller CPNs on average resulted in fewer 'high risk' relationships (e.g., network members with forensic risk factors, fewer stressful relationships).

Note furthermore that the network structures of patients' networks were described using the triad census method (see paragraph 1.4). The most common triad in the HPNs and CPNs was the triad in our study defined as most desirable (triad in which two network members without forensic risk factors were connected to each other). The proportion of this triad was – on average - higher in the patients' CPNs compared to their HPNs. The triads, in our study defined as most undesirable (triads with two high risk network members), were the least frequent in both the patients' HPNs and CPNs. The proportion of this triad was decreased in the CPNs. These findings can be considered positive for

patients' re-entry chances, because protective network members provide more opportunities to positively influence other members and the patient (Haynie, 2001).

The results of the three case studies in Chapter 4 also provided important empirical insights on N=1 level of the compositional and structural characteristics of the assessed HPNs and CPNs.

Case studies - HPN. The network structures of the HPNs of the three patients were partially fragmented; personal network members were not always connected to each other. Focusing on the four theoretical concepts (Chapter 1), the isolated ties/subnetworks posed limited opportunities for collective social support and social control. For example, in the first case study, only one isolated network member was informed about the patient's mental health condition and was not motivated to monitor patient's medicine compliance. Another consequence of (highly) fragmented networks is that individual risk behavior is more difficult to detect when this risk behavior is postulated in another subnetwork (Burt, 1992; Kadushin, 2002). This was evident in the second case study, where structural holes offered this patient too much freedom because his behavior towards one network member remained hidden from other network members.

Case studies - network changes between HPNs and CPNs. The studied interactions between patients' network structures and network compositions provided more insights in whether the function of the personal networks on patient's behavior has changed between patients' HPNs and CPNs. The first and third case study showed a similar network fragmentation between subnetworks in both the HPNs and CPNs. It is well established in the social network literature that this network position (also known as brokerage role (Burt, 1992)) will bring benefits for the actor involved (e.g., access to different valuable resources). Although, in these cases, it seems rather detrimental to the treatment progress. It could cause a lack of collective protective social support and social control opportunities, which in these specific cases seemed to be crucial for medicine compliance and adherence to treatments. In the second case study, the CPN was less fragmented compared to the HPN. However, this small positive structural change seemed fragile, because there were still undiscussed interpersonal difficulties between the patient and his personal network members and between network members themselves.

The case-study in Chapter 5 examined changes over time in the social support network of a forensic psychiatric patient diagnosed with ADHD. The focus was on the functional and dysfunctional influences of the patient's social support dynamics on his risk behavior during mandatory outpatient treatment. At four time points in his treatment process, a structured FSNA interview was conducted with the patient and two of his

network members. The patient's social supporters, their structural network position and their risk were pooled and labeled through a triad census method. While studying the patient's support networks, we noticed a decrease in practical and emotional supporters, a stable financial support network, and a decrease in high risk social supporters. We concluded - using the triad census method - that the social support function differed over time between the three selected types of social support (i.e., practical, emotional, and financial support). It was also found that not being named as a social supporter in a follow-up measurement did not mean that these network members were no longer part of the patient's personal network. This raised the interesting question of whether network members who have disappeared from the social support network return to the social support network at a later stage in treatment or probation. Also, it was found, in this case, that the patient relied more on his formal support network during his mandatory treatment. This observation is important for his long-term perspective: when treatment ends, it is important that the stable and protective formal social support system must be followed up by network members outside the formal clinical care setting.
In conclusion, the presented FSNA approach advances the clinical practice by building a rich empirical understanding of the risk behaviors of forensic psychiatric patients in their own unique personal social context. This better understanding of the function of personal networks is supportive for personalized risk management, treatment decisions, and may improve future efforts for personal network interventions efforts (e.g., identifying/activating specific significant relationships/social resources, or risky network patterns that can be restructured).

The findings pointed out the added value of single case (social network) analysis: the empirical data of our studies (Chapters 3-5) showed that the well-established risk factors and protective factors based on population research were not all necessarily applicable in each individual case. This underlines the uniqueness of the social factors involved. It showed the importance of tailormade research and analysis: the FSNA is certainly not a one size fits all model.

6.3 Limitations and future research

In spite of the achievements described above, this research knows several limitations. In the following these limitations are outlined and it is suggested how they can be addressed in future research.

6.3.1 Limitations

A first important limitation is that the validity of the FSNA approach cannot be guaranteed. It is never completely certain that FSNA results with its described negative or posi-

tive network influences are the valid reflection of the patients' reality when returning into society. The more because the patient's perspective as well as the network might change rapidly when the treatment ends. For example, an important assumption in the FSNA approach is that similar risk patterns in the HPN, CPN and FPN of the same patient will lead to an increased future risk of recidivism. This is an assumption that needs further evaluation over time. Also, we used various qualitative classification systems to establish the risks involved. These systems remain a necessary simplified representation of the complexity of all compositional and structural variables involved. Ideally, FSNA research should include assessments of personal networks over time after the incarceration period. It is likely that (social) triggers that are associated with offense behavior are revealed in the group who do recidivate. Either way, it is questionable to what extent instruments like the FSNA data collection instrument can be validated based on the usual methodological requirements. Establishing validity of the instrument is complex, because its application has an intervening effect (e.g., involving network members in treatment, discussions between the patient and network members, between patient and mental health professionals, professionals who (immediately) act based on the observed FSNA factors (e.g., not submitting an application for leave)) and therefore it cannot be established what would have happened with the patients in a situation without artificial interventions.

A second limitation to consider is that by default, the personal network data about the offense period was collected retrospectively and our research population may not have remembered all relevant network details. The respondents with a TBS order (Chapters 3 & 4) committed their offenses years before the FSNA interviews took place because most of them were incarcerated prior to the TBS treatment. It is likely that patients remember situations in ways that do not correspond to the actual situation. Ideally, historical personal network data in future FSNA studies should be collected soon after the patient's arrest. In forensic practice, this would be a challenge, as most patients are sent to prison after the crime and then treated in a forensic psychiatric clinic.

A third limitation is that the studied patients and the selected network members may withhold relevant information to protect themselves or others. For instance, patients might have feared that admitting 'high risk' data will have an adverse effect on the length of stay in the forensic psychiatric center (fearing e.g., the possible impact on the likelihood of the patient's release/future). Also, patients might have feared reprisals against themselves or their loved ones. These factors may have discouraged the accurate reporting of FSNA data.

Furthermore, a fourth limitation is that the personality disorders of the studied population may have influenced the way they identified significant others and social resources.

Earlier research found that people's perceptions of their personal networks are influenced by personality factors (Casciaro, Carley, & Krackhardt, 1999; Clifton, Pilkonson, & McCarty, 2007). For instance, in the study of Clifton et al. (2007) clinical patients without personality disorder reported higher levels of positive relationships than clinical patients diagnosed with borderline personality disorder (BPD). The authors assumed that individuals with BPD have difficulties with identifying appropriate sources of social support (Clifton et al., 2007). However, one should not dismiss a person's report of his personal network members on the account of incorrect information, because it is *their* perception of the relationships that will influence their attitudes and their own behavior (Mc Carty et al., 2019). For instance, Cohen and Janicky-Deverts (2009) found that the social support persons perceive may influence their well-being more than the actual support.

6.3.2 Future research

The forensic personal network approach, proposed in this dissertation, should be considered as a first step in developing a flexible practice-based risk management tool which provides additional information to support forensic treatment decisions. It needs to be further elaborated and professionalized in the forensic psychiatric context as well as related contexts, such as probations services. *This should be a joined effort of forensic clinical practitioners and scientific researchers to establish the best of both worlds.*

Furthermore, future research should examine to which extent the current FSNA procedure needs to be adjusted. For example, due to the explorative nature of this study, the sample was very small: it included only male forensic psychiatric patients with DSM-IV diagnoses of one or more personality disorder(s) (APA, 1994) who had been convicted for violent or sexual offenses. There is no reason to expect that the FSNA approach is not suitable for other forensic psychiatric populations or for patients with different diagnoses, but this has yet to be established.

In the current FSNA procedure, we did not allow the patients to participate in the selection and invitations of their personal network members. In recent years, however, there has been an increased scientific support to weigh patients' perspectives and needs in effective mental health care and risk management programs. In this context, listening to the suggestions of patients when it comes to inviting network members could result in more acceptance of and willingness to actively participate in FSNA research. A further example is shared decision making (SDM). SDM covers both the professional and personal perspective on the problem and a commitment to reach consensus on treatment. SDM concludes that future violent or criminal behavior by the client was best predicted by a combination of risk assessment by the client and the case manager (Van de Brink et al., 2015). *This insight could also be considered in future FSNA procedures.*

Another advice is to *further develop the FSNA questionnaires*. For instance, it would be valuable to ask the studied patients to what extent they think that their personal network members have influenced their thoughts/decisions and related (risk) behavior. This question was not included in our conducted FSNA questionnaires. Also, online social media platforms have become increasingly important to our social life. This will have different theoretical and practical implications for patients' abilities to maintain relationships with others or (re-) connect relationships with others, especially during their reintegration into society. It is important to examine to what extent social media platforms affect the patient's social resources/wellbeing and future risk behavior and to add social media related questions in the FSNA questionnaires.

The current FSNA procedure in the clinical practice is very time-consuming and labor-intensive. The FSNA method can be enriched *by designing procedures that vary in duration and intensity of questioning*. Consistent with the risk principle of the RNR model (Andrews, Bonta, & Hoge, 1990), it is important that the intensity of the FSNA research should be tailored to the patient's individual level of risk.

Future FSNA research needs also to *examine the consequences of the discussed limitations in data quality* (long timeframes, the forensic context and mental health issues) for the wellbeing of the patient and the society. The speed of collecting reliable FSNA data determines how early protective and risk factors in the patients' personal networks can be identified and thus how soon interventions can be implemented.

In addition to this, future network research needs to be done to *further enlarge our theoretical and empirical knowledge* of personal networks in the forensic psychiatric context. For example, the reasons why patients have committed their crimes despite a reasonable protective social support system (Chapters 3 & 4) are not conclusive and require further investigation. It might be found that a larger personal social network may simply provide more criminal opportunities for some patients. In more general terms, the entire FSNA approach has just scratch the surface and is open to more future in-depth research.

Finally, the current study was not specifically designed to examine the effectiveness of our advised social interventions, or how these network interventions can play a crucial role in treatment success in the long run. There is an apparent lack of knowledge of the precise effect of network interventions within the forensic psychiatric care (Bootsma, Van den Berg, & Spreen, 2016). System therapists, social workers, and researchers should join efforts in taking care of extending theoretical and practice-based knowledge of the influence of social network interventions on the forensic psychiatric patients' treatment successes.

6.4 Recommendations for forensic social work professionals

Forensic care professionals play an important role in a patient's risk management. The FSNA approach provides professionals an organized way to explore patterns of risk behavior in patients' personal networks. Based on this dissertation the following recommendations can be given:

1. Professionals who conduct FSNA research *need to be trained:* it is important that the professionals have a solid understanding of the theoretical and practical principles of the FSNA approach. We advise forensic care professionals to compare social relationships during treatment with relationships at the time of the crime because patients may use their social networks to create new risk contexts. The more precise a network can be assessed on both risk and protective factors, the more opportunities to either use the positive aspects of the social network during treatment and risk management strategies or to learn avoid the negative aspects of the same social network.

2. Social support systems play an important role in the long-term success of treatment (Douglas, Hart, Webster, & Belfrage, 2013; Kogel & Nagtegaal, 2008; Shapiro & diZegera, 2012; Spreen, Brand, Ter Horst, & Bogaerts, 2014; Webster, Martin, Brink, Nicholls, & Middleton, 2004). *We advise professionals to apply network interventions, especially aimed at increasing sufficient and protective social support systems during treatment and reintegration into society*. The frequency and intensity of an intervention must be adapted to the potential risk level of the individual patient (Andrews & Bonta, 1994).

3. It is furthermore important *to consider at an early stage in the forensic treatment to which extent patients' network members can support* the patient properly during forensic psychiatric treatment and during his return to society. *It is vital in case of signs of fading contacts forensic professionals step in to support the patient in maintaining contact with his protective network members.* Involvement of network members in risk management interventions can contribute to better social control, support, and functioning of the patient. Not only will the patient benefit from protective social support, but it will also influence the well-being of family, friends, and community (Skeem, Eno Louden, Manchak, & Haddad, 2009).

4. The field of social work in the Netherlands has changed radically in recent years. The new social policy is focused on a more strength-based approach. The social work professional should encourage individuals to take personal responsibility for solving their problems within their possibilities. An important focus is the use of informal

social networks to support the individual by empowering him (Meinema, 2017). Numerous network interventions in the (regular) domain of mental health seems promising to change behavior and improve (mental) health outcomes. *Cooperation between forensic practitioners and the regular mental health care practitioners can enrich perspectives on best practices in (forensic) social network approaches.*

5. Last but not least, our study was primarily focused on the offenders and not on their victims and their level of victimization. *It is of great importance, however, to establish whether persons are still at risk during the patient's treatment*. Social networks in which both the offender and his victim(s) are embedded are a typical example of complex dynamics that are usually underestimated. *Future programs should pay close attention to these dynamics*.

6.5 Recommendations for policy- and decisionmakers

In 2004/5 the TBS system became a central and recurring topic in political and societal discussions. A parliamentary commission was put in place after several patients committed serious crimes during their leaves. This parliamentary commission recommended an increase in funds to facilitate more extensive scientific research into the effectiveness of treatment methods: the research should focus on the identification of underlying risk factors (Parlementair onderzoek TBS, 2006). In this period, we started the so-called FSNA pilot project on a nationwide scale in Dutch FPCs, partly financed by the Dutch Dienst Justitiële Inrichtingen (Custodial Institutions Agency). After this pilot project, several participating FPCs were confronted with financial cutbacks. Important contributors to FSNA where either were taken of their assignment or let go. As a result, much of the accumulated FSNA knowledge has not been applied in the FPCs in recent years. Also, if we look more broadly to the systematic involvement of social networks in Dutch forensic psychiatric case treatment programs, there is still room for improvement. Bootsma, Van den Berg and Spreen (2016) assessed the role of social networks in Dutch forensic psychiatry. They concluded that forensic psychiatric centers with a lower security level are clearly ahead when it comes to systemic/network approaches compared to ones with the highest security levels. The authors mentioned that this limited attention of the latter is also manifested in the inconsistency of the guidelines of the national mental health platform (in Dutch: GGZ-platform): this platform defines family involvement as an important part of the care policy. Specifically, in FPCs with the highest security levels, *further elaboration is required to decide when and how network members are informed, involved and supported, especially in long-term treatments of their loved ones* (Bootsma, Van den Berg, & Spreen, 2016).

One of the biggest concerns to further develop FSNA initiatives is the deterioration of the state of the Dutch mental care sector. There are major shortages of qualified staff in forensic treatment centers as well as growing waiting lists, especially for patients with more severe mental care needs. Even though these are well-known problems, at a political level, there seems to be a lack of a sense of urgency. This makes it nearly impossible to professionally apply the FSNA-approach presented in this dissertation. Subsequently, this will make it much harder to ascertain a comprehensive picture of a patient's situation and to lower the rate of recidivism amongst (ex)patients. Both the research and practice of treatment and reintegration is in dire need of this political will to follow through, to be able to advance and draw valid conclusions. In the end, the patients and our society will profit from the contribution FSNA makes to lower recidivism rates and a better quality of life for all individuals involved. From a logical perspective, it should not be hard to gain political will for a win-win situation.

Personal concluding note

Overall, I would like to conclude with the title of my master thesis I wrote back in 2005: "Zonder (ver)anderen lukt het niet" ("It would not work without change - Without others, it would not work"). This thesis marked the start of my professional career as a researcher in forensic psychiatry. There is scientific consensus that long-term change in a person's behavior, believes and attitudes has significantly more chance to succeed when protective social network members are involved. In multiple cases, it would be necessary for the network and his members to change to be able to better support the individual in establishing a crime-free future. To be effective as social work professionals in forensic psychiatric treatment centers, we have to support, involve and collaborate with the patient and his significant others.

References

Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology. 30*(1), 47-87.

Agnew, R. (2006). Storylines as a Neglected Cause of Crime. *Journal of Research in Crime and Delinquency, 43,*119-47. https://doi.org/10.1177/0022427805280052

Akers, R. (1998). *Social learning and Social Structure.* A General theory of Crime and Deviance. Northeastern University Press, Boston.

Albert, M., Becker, T., McCrone P., & Thornicroft, G. (1998). Social networks and mental health service utilisation - a literature review. *International Journal of Social Psychiatry*, *44*, 248–266. https://doi.org/10.1177/002076409804400402

Ali, M. M., & Dwyer, D. S. (2010). Social network effects in alcohol consumption among adolescents. *Addictive Behaviors, 35*(4), 337-42. https://doi.org/10.1016/j.addbeh.2009.12.002.

Allan, G. (1979). *A sociology of Friendship and Kinship*. London: Allen & Unwin.

American Psychological Association. (1994). *Publication manual of the American Psychological Association* (4th ed.). Washington, DC: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

Andrews, D. A., & Bonta, J. (1994). *The psychology of criminal conduct*. Cincinnati, OH: Anderson.

Andrews, D. A., Bonta, J., & Hoge, R. D. (1990). Classification for effective rehabilitation: Rediscovering psychology. *Criminal Justice and Behavior, 17,* 19-52. https://doi.org/10.1177/0093854890017001004

Aos, S., Miller, M., & Drake, E. (2006). *Evidence-Based Adult Corrections Programs: What Works and What Does Not.* Olympia: Washington State Institute for Public Policy.

Arditti, J. A., Lambert-Shute, J., & Joest, K. (2003). Saturday morning at the jail: Implications of incarceration for families and children. *Family Relations*, *52,* 195–204. https://doi.org/10.1111/j.1741-3729.2003.00195.x

Baars, H. (1994). *Sociale netwerken van ambulante chronisch psychiatrische patiënten. [Social networks of ambulant chronic psychiatric patient].* Academisch proefschrift Universiteit van Maastricht: Universitaire drukkerij UNIPRINT, The Netherlands.

Bales, W. D., & Mears, D. P. (2008). Inmate social ties and the transition to society: Does visitation reduce recidivism*? Journal of Research in Crime and Delinquency, 45,* 287-321. https://doi.org/10.1177/0022427808317574

Bandura, A. (1962). Social learning through imitation. In M. R. Jones (Ed.). *Nebraska Symposium on Motivation*. Lincoln: University of Nebraska Press.

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bartels, A. A. J., & Spreen, M. (2005). Het sociale-competentiemodel en sociale netwerkanalyse in de forensische psychiatrie. [The social competence model and social network analysis in forensic psychiatry]. In C. de Ruiter & M. Hildebrand. *Behandelingsstrategieën bij forensisch-psychiatrische patiënten* (pp. 95-108). Houten: Bohn Stafleu van Loghum.

Bem, D. J., & Funder, D. C. (1978). Predicting more of the people more of the time: Assessing the personality of situations. *Psychological Review, 85,* 485-501. https://doi.org/10.1037/0033-295X.85.6.485

Benson, P. L. (2002). Adolescent development in social and community context: a program of research. *New directions for youth development*, *95*, 123-148. https://doi.org/10.1002/yd.19

Blau, P. M. (1964). *Exchange and power in social life*. New York: John Wiley.

Boer, D. P., Hart, S. D., Kropp, P. R., & Webster, C. D. (1997). *Manual for the Sexual Violence Risk -20: Professional Guidelines for Assessing Risk of Sexual Violence.* Vancouver: The Mental Health, Law, & Policy Institute.

Bogaerts, S., Poiesz, T. B. C., & Van der Knaap, L. M. (2007). Voorkoming en reductie van criminaliteit: te weinig aandacht voor gedragscomponenten *Tijdschrift voor veiligheid, 3,* 51-53.

Bogaerts, S., Spreen, M., Ter Horst, P, & Gerlsma, C. (2018). Predictive validity of the HKT-R Risk Assessment for two and five-year recidivism in a cohort of Dutch Forensic Psychiatric Patients. *International Journal of offender Therapy and Comparative Criminology*, *62*, 2259-2270. https://doi.org/10.1177/0306624X17717128

Bogaerts, S., Vervaeke, G., & Goethals J. (2004). A Comparison of Relational Attitude and Personality Disorders in the Explanation of Child Molestation. *Sexual Abuse: A journal of Research and Treatment*, *16,* 37-47. https://doi.org/10.1177/107906320401600103

Bogaerts, S., Vanheule, S., & Desmet, M. (2006). Feelings of subjective emotional loneliness: An exploration of attachment. *Social Behavior and Personality*, *34*(7), 797-812. https://doi.org/10.2224/sbp.2006.34.7.797

Bogaerts, S., Vanheule, S., Leeuw, F., & Desmet, M. (2006). Recalled parental bonding and personality disorders in a sample of exhibitionists: a comparative study. *The Journal of Forensic Psychiatry & Psychology*, *17,* 636-464. https://doi.org/10.2224/sbp.2006.34.7.797

Boissevain, J. (1974). *Friends of Friends: Networks, Manipulators & Coalitions*. Oxford. Basil Blackwell.

Bolger, N., Zuckerman, A., & Kessler, R. C. (2000). Invisible support and adjustment to stress. *Journal of Personality and Social Psychology, 79,* 953-961. https://doi.org/10.1037/0022-3514.79.6.953

Bonta, J. (2002). Offender risk assessment: Guidelines for selection and use. *Criminal Justice and Behavior, 29*, 355-379. https://doi.org/10.1177/0093854802029004002

Bonta, J., & Andrews, D. A. (2007). Risk-need-responsivity model for offender assessment and treatment (User Report No. 2007-06). Ottawa, Ontario: Public Safety Canada.

Bonta, J., & Andrews, D. (2010). Viewing offender assessment and rehabilitation through the lens of the risk-need- Responsivity model. In: F. McNeill, P. Raynor, & C. Trotter (Eds.). *Offender supervision. New directions in theory, research and practice* (pp. 241-256). New York: Willan publishing.

Bonta, J., Blais, J., & Wilson, H. A. (2014). A theoretically informed meta-analysis of the risk for general and violent recidivism for mentally disordered offenders. *Aggression and Violent Behavior, 19*(3), 278–287. https://doi.org/10.1016/j.avb.2014.04.014

Bonta, J., Law, M., & Hanson, K. (1998). The prediction of criminal and violent recidivism among mentally disordered offenders: A Meta-analysis. *Psychological Bulletin, 123,* 123-142. https://doi.org/10.1037/0033-2909.123.2.123

Bouman, Y. H. A. (2009). *Quality of life and criminal recidivism in forensic outpatients with personality disorders. A Good Lives approach*. The Netherlands: University of Maastricht.

Bourdieu, P. (1980). Le capital social. *Actes de la Recherche en Sciences Sociales, 31,* 2-3.

Bourdieu, P. (1985). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241–258). New York, NY: Greenwood.

Borgatti, S. P., Everett, M. G., & Freeman, L. C. (2002). *Ucinet for Windows: Software for Social Network Analysis*. Harvard, MA: Analytic Technologies.

Borowsky, I. W., Hogan, M., & Ireland, M. (1997). Adolescent sexual aggression: risk and protective factors. *Pediatrics, 100*(6), 7-17. https://doi.org/10.1542/peds.100.6.e7

Bot, S. M., Engels, R. C. M. E., Knibbe, R. A., & Meeus, W. H. J. (2005). Friend's drinking behaviour and adolescent alcohol consumption: The moderating role of friendship characteristics. *Addictive Behaviors, 30*(5), 929–947. https://doi.org/10.1016/j.addbeh.2004.09.012fnord

Branstetter, S. A., Low S., & Furman, W. (2011). The Influence of Parents and Friends on Adolescent Substance Use: A Multidimensional Approach. *Journal of Substance Use, 16*(2), 150-160. https://doi.org/10.3109/14659891.2010.519421

Brown, B. B. (2004). *Adolescents' relationships with peers.* In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (p. 363–394). John Wiley & Sons Inc.

Brunt, D., & Hansson, L. (2002). Characteristics of the social environment of small group homes for individuals with severe mental illness. *Nordic Journal of Psychiatry, 56*(1), 39-46. https://doi.org/10.1080/08039480252803909

Brunton-Smith, I., & McCarthy, D. (2017). The effects of prisoner contact with family on re-entry outcomes: a longitudinal assessment. *British Journal of Criminology, 57,* 463-482. https://doi.org/10.1093/bjc/azv129

Burt, R. S. (1992). *Structural Holes: The social structure of competition.* Cambridge, MA: Harvard University Press.

Buschman, J., Bogaerts, S., Foulger, S., Wilcox, D., Sosnowski, D., & Cushman, B. (2010). Sexual history disclosure polygraph examinations with cybercrime offences: A first Dutch explorative study. *International Journal of Offender Therapy and Comparative Criminology, 54*(3), 395-411. https://doi.org/10.1177/0306624X09334942

Canton, W. J., Veer, T. S., Van der Panhuis, P. J. A., Van Verheul, R., & Van den Brink, W. (2004). De voorspellende waarde van risicotaxatie bij de rapportage pro Justitia: Onderzoek naar de HKT-30 en de klinische inschatting [The predictive validity of risk assessment in "pro Justitia" reports. A study of the HKT-30 and clinical assessment]. *Tijdschrift voor Psychiatrie, 46,* 525-535.

Casciaro, T., Carley, K. M., & Krackhardt, D. (1999). Positive affectivity and accuracy in social network perception. *Motivation and Emotion, 23*, 285-306. https://doi.org/10.1023/A:1021390826308

Caspi, A., Harrington, H., Moffitt, T. E., Milne, B. J., & Poulton R. (2006). Socially Isolated Children 20 Years Later: Risk of Cardiovascular Disease. *Archives of Pediatrics and Adolescent Medicine, 160*(8), 805–811. https://doi.org/10.1001/archpedi.160.8.805

Chan, B. W. Y. (2008). Violence against caregivers by relatives with schizophrenia. *International Journal of Forensic Mental Health*, *7,* 65-81. https://doi.org/10.1080/14999013.2008.9914404

Christakis, N. A., & Fowler, J. H. (2007). The Spread of Obesity in a Large Social Network Over 32 years. *New England Journal of Medicine, 357,* 370-379. https://doi.org/10.1056/NEJMsa066082

Cialdini, R. B., & Goldstein, N. J. (2004). Social Influence: Compliance and Conformity. *Annual Review of Psychology, 55*, 591-621. https://doi.org/10.1146/annurev.psych.55.090902.142015

Clifton, A., Pilkonis, P. A., & McCarty, C. (2007). Social networks in borderline personality disorder. *Journal of personality disorders*, *21,* 434-441. https://doi.org/10.1521/pedi.2007.21.4.434

Clifton, A., Turkheimer, E., & Oltmanns, T. F. (2009). Personality disorder in social networks: Network position as a marker of interpersonal dysfunction. *Social Networks, 31*(1), 26-32. https://doi.org/10.1016/j.socnet.2008.08.003

Cohen, S., Gottlieb, B. H., & Underwood, L. G. (2000). *Social relationships and health.* In S. Cohen, L. G. Underwood, & B. H. Gottlieb (Eds.), *Social support measurement and intervention: A guide for health and social scientists* (pp. 3–25). Oxford University Press. https://doi.org/10.1093/med:psych/9780195126709.003.0001

Cohen, S., & Wills, T. A. (1985). Stress, social support and the buffering hypothesis. *Psychological Bulletin, 98*(2), 310-357. https://doi.org/10.1037/0033-2909.98.2.310

Coid, J. W. (2000). Axis II disorders and motivation for serious criminal behavior. In A.E. Skodol (Ed.). *Psychopathology and violent crime*. Washington, DC: American Psychiatric Press, 53-97.

Coid, J., Kahtan, N., Gault, S., & Jarman, B. (1999). Patients with personality disorder admitted to secure forensic psychiatry services. *The British Journal of Psychiatry, 175*, 528-536. https://doi.org/10.1192/bjp.175.6.528

Coleman, J. S. (1988). Organizations and Institutions: Sociological and Economic Approaches to the Analysis of Social Structure, *The American Journal of Sociology, 94,* 95-120.

Coleman, J. S. (1990). *Foundations of Social Theory.* Cambridge, Harvard University Press.

Colvin, M., Cullen, F. T., & Vander Ven, T. (2002). Coercion, social support, and crime: An emerging theoretical consensus. *Criminology*, *40,* 19-42. https://doi.org/10.1111/j.1745-9125.2002.tb00948.x

Cook, K. S., & Whitmeyer, J. M. (1992). Two approaches to social structure: exchange theory and network analysis. *Annual review of Sociology, 18,* 109-127. https://doi.org/10.1146/annurev.so.18.080192.000545

Coyne, J. C., Wortman, C. B., & Lehman, D. R. (1988). The other side of support. Emotional overinvolvement and miscarried helping. In B. H. Gottlieb (ed.). *Marshaling social support: Formats, processes and effects* (pp. 305-330). Newbury Park, CA: Sage.

Cullen, F. T. (1994). Social support as an organizing concept for criminology: Presidential address to the academy of criminal justice sciences. *Justice Quarterly, 11*(4), 527-559. https://doi.org/10.1080/07418829400092421

Cullen, F. T., Wright, J. P., & Chamlin, M. B. (1999). Social support and social reform: A progressive crime control agenda. *Crime & Delinquency, 45*(2), 188–207. https://doi.org/10.1177/0011128799045002002

Danese, A, Moffitt, T. E., Harrington, H., Milne, B. J., Polanczyk, G., Pariante, C. M., . . . Caspi, A. (2009). Adverse Childhood Experiences and Adult Risk Factors for Age-Related Disease: Depression, Inflammation, and Clustering of Metabolic Risk Markers. *Archives of Pediatrics and Adolescent Medicine, 163*(12):1135–1143. https://doi.org/10.1001/archpediatrics.2009.214

De Cuyper, R. H. (2015). *Personal networks of prisoners: The composition, overlap and changes in prisoners' core discussion network and their criminal network*. Drukkerij Ipskamp.

Degenne, A., & Lebeaux, M. O. (2005). The Dynamics of Personal Networks at the Time of Entry into Adult Life. *Social Networks, 27*, 337-58. https://doi.org/10.1016/j.socnet.2004.11.002

De Kogel, C. H., & Nagtegaal, M. H. (2006). *Gewelds- en zedendelinquenten met psychische stoornissen – een inventarisatie van wetgeving en praktijk in het forensisch psychiatrische systeem en het gevangenissysteem in Engeland, Duitsland, Canada, Zweden en België.* [Serious violent and sexual offenders with a mental disorder. An inventory of legislation and practical experience in the forensic psychiatric systems and the prison systems in England, Germany, Canada, Sweden and Belgium]. Den Haag, Boom Juridische Uitgevers, Reeks Onderzoek en beleid, nr. 240.

De Kogel, C. H., & Nagtegaal, M. H. (2008). *Toezichtprogramma's voor delinquenten en forensisch psychiatrische patiënten. Effectiviteit en veronderstelde werkzame mechanismen*. [Supervision programs for offenders and forensic psychiatric patients. Effectiveness and mechanisms that are assumed to be effective]. WODC/ BJU: Meppel.

DeLisi, M. (2005). Career Criminals in Society. Thousand Oaks, CA: Sage Publications.

De Vogel, V. (2005). *Structured risk assessment of (sexual) violence in forensic clinical practice. The HCR-20 and SVR-20 in Dutch forensic psychiatric patients.* Dissertation, Amsterdam, the Netherlands.

De Vogel, V., De Ruiter, C., Hildebrand, M., Bos, B., & Van de Ven, P. (2004). Different ways of discharge and (risk of) recidivism measured by the HCR-20 and PCL-R in a sample of treated forensic psychiatric patients. *International Journal of Forensic Mental Health, 3,* 149-165.

De Vogel, V., De Ruiter, C., Bouman, Y., & De Vries Robbe, M. (2007). *Guidelines for the assessment of protective factors for violence risk*. Utrecht: Van der Hoeven Stichting.

De Vogel, V., De Vries Robbe, M., Bouman, Y. H. A., Chakhssi, F., & De Ruiter, C. (2013). Innovatie in risicotaxatie van geweld: De HCR-20 V3. *Gedragstherapie, 46*, 107-118.

De Vries Robbe, M. (2014). *Protective Factors Validation of the Structured Assessment of Protective Factors for Violence Risk in Forensic Psychiatry (dissertation)*. Nijmegen, Radboud University, the Netherlands.

De Vries Robbe, M., Mann, R. E., Maruna, S., & Thornton, D. (2014). An exploration of protective factors supporting desistance from sexual offending. *Sexual Abuse: A Journal of Research and Treatment*, *27*, 16-33. https://doi.org/10.1177/1079063214547582

De Vries-Robbe, M., de Vogel, V., Koster, K., & Bogaerts, S. (2015). Assessing Protective Factors for Sexually Violent Offending With the SAPROF. *Sexual Abuse: A Journal of Research and Treatment*, *27*, 51-70. https://doi.org/10.1177/1079063214550168

Ditchfield, J. (1994). Family Ties and Recidivism: main findings of the literature. *Home Office Research Bulletin 36*, London: Home Office, pp. 3-9.

Douglas, K. S., Hart, S. D., Webster, C. D., & Belfrage, H. (2013). *HCR-20V3: Assessing risk of violence – User guide*. Burnaby, Canada: Mental Health, Law, and Policy Institute, Simon Fraser University.

Douglas, K. S., Hart, S. D., Webster, C. D., Belfrage, H., Guy, L. S., & Wilson, C. M. (2014). Historical-Clinical-Risk Management-20, Version 3 (HCR-20v3): Development and Overview. *International Journal of Forensic Mental Health, 13*(2), 93-108.

Douglas, T., Pugh, J., Singh, I., Savulescu, J., & Fazel, S. (2017). Risk assessment tools in criminal justice and forensic psychiatry: The need for better data. *European Psychiatry, 42*, 134-137. https://doi.org/:10.1016/j.eurpsy.2016.12.009

Douglas, K. S., Hart, S. D., Webster, C. D., Belfrage, H., Guy, L. S., & Wilson, C. M. (2014) Historical-Clinical-Risk Management-20, Version 3 (HCR-20^{V3}): Development and Overview, *International Journal of Forensic Mental Health, 13* (2), 93-108. https://doi.org/10.1080/14999013.2014.906519

Dowden, C., Antonowicz, D., & Andrews, D. A. (2003). The effectiveness of relapse prevention with offenders: A meta-analysis. *International Journal of Offender Therapy and Comparative Criminology, 47*(5), 516-528.

Dunbar, R. I. M. (1993). Coevolution of neocortical size, group size and language in humans. *Behavioral and Brain Sciences*, *16,* 681–735. https://doi.org/10.1017/S0140525X00032325

Dunbar, R. I. M., & Spoor, M. (1995). Social Networks, support cliques, and kinship. *Human Nature, 6*, 273–290. https://doi.org/10.1007/BF02734142

Dunn, J., & Ferri, C. P. (1999). Epidemiological methods for research with drug misusers: review of methods for studying prevalence and morbidity. *Revista de Saude Publica*, *33,* 206–215.

Easley, D., & Kleinberg, J. (2010). Chapter 3 Strong and Weak ties (pp. 47-84). *Networks, Crowds, and Markets: reasoning about a highly connected world.* Cambridge University Press. Retrieved from: http://www.cs.cornell.edu/home/kleinber/networks-book/

Ellenbroek, E. (2000). *Maatschappelijke inpassing bij forensisch psychiatrische patiënten: Een verkennende studie naar sociale netwerken van forensisch psychiatrische patiënten opgenomen in het F.P.C. Veldzicht.* [Social integration of forensic psychiatric patients: a prospective study of social networks of forensic psychiatric patient in the FPC Veldzicht]. University Maastricht, the Netherlands.

Estroff., S. E., Swanson., J. W., Lachicotte., W. S., Swartz., M., & Bolduc., M. (1998). Risk considered: targets of violence in the social networks of people with serious psychiatric disorders. *Social Psychiatry and Psychiatric Epidemiology*, *33*, 95-101. https://doi.org/10.1007/s001270050216

Estroff, S. E., & Zimmer, C. (1994). Social networks, social support, and violence among persons with severe, persistent mental illness. In J. Monahan & H. J. Steadman (Ed.), *Violence and mental disorder, developments in risk assessment* (pp. 249–295). Chicago/London: The University of Chicago press.

Estroff, S. E., Zimmer, C. R., Lachicotte, W. S., & Benoit, J. (1994). The influence of social networks and social support on violence by persons with serious mental illness. *Hospital and community psychiatry*, *45*(7), 669-679.

Expertisecentrum Forensische Psychiatrie. (2013). *Basis Zorgprogramma. Landelijk zorgprogramma voor forensisch psychiatrische patiënten.* [Basic Care Program. Nationwide care program for forensic psychiatric patients]. Retrieved from: http://www.efp.nl/sites/default/files/webmasters/basiszp_laatste_versie_jan_2013.pdf

Farrell, A. D., & White, K. S. (1998). Peer Influences and Drug Use among Urban Adolescents: Family Structure and Parent-Adolescent Relationship as Protective Factors. *Journal of Consulting and Clinical Psychology, 66*, 248-258. https://doi.org/10.1037/0022-006X.66.2.248

Feld, S. L., & Carter, W. C. (1998). Foci of activity as changing contexts for friendship. In R. G. Adams & G. Allan (Eds) *Placing Friendship in Context*, pp. 136–152. Cambridge: Cambridge University Press.

Felson, M., & Gottfredson, M. (1984). Social Indicators of Adolescent Activities near Peers and Parents. *Journal of Marriage and Family, 46*(3), 709-714. https://doi.org/10.2307/352612

Fitzpatrick, K. M. (1997). Fighting among America's youth: A risk and protective factors approach. *Journal of Health and Social Behavior, 38,* 131-148.

Flap, H. (1999). Creation and returns of social capital: a new research program. *La Revue Tocqueville, XX*, 5–26.

Flap, H. (2004). Creation and returns of social capital: a new research program. In H. Flap & B. Volker (Eds), *Creation and return of social capital* (pp. 3-24). London: Routledge.

Flap, H., & Volker, B. (2013). Social Capital. In R. Wittek, T. Snijders, & V. Nee (Eds), *The Handbook of Rational Choice Social Research* (pp. 220-251). Stanford Social Sciences/University Press.

Fluttert F., Eidhammer G., & Dale K. Y. (2021). Early Recognition Method: 'Opening Doors' in Risk Management Dialogue Between Mental Health and Prison Services. In: S. Hean, B. Johnsen, A. Kajamaa, & L. Kloetzer (eds) *Improving Interagency Collaboration, Innovation and Learning in Criminal Justice Systems* (pp. 267-295). Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-70661-6_11

Fluttert, F., Van Meijel, B., Webster, C., Nijman, H., Bartels, A., & Grijpdonck, M. (2008). Risk management by Early Recognition of Warning Signs in Patients in Forensic Psychiatric Care. *Archives of Psychiatric Nursing, 22*(4), 208-216.

Forrester-Jones, R., & Barnes, A. (2008). On being a girlfriend not a patient: The quest for an acceptable identity amongst people diagnosed with a severe mental illness. *Journal of Mental Health, 17,* 153-172. https://doi.org/10.1080/09638230701498341

Gannon, T. A., King, T., Miles, H., Lockerbie, L., & Willis, G. M. (2011). Good lives sexual offender treatment for mentally disordered offenders. *British Journal of Forensic Practice, 13*(3), 153-168. https://doi.org/10.1108/14636641111157805

Gardner, M., & Steinberg, L. (2005). Peer Influence on Risk Taking, Risk Preference, and Risky Decision Making in Adolescence and Adulthood: An Experimental Study. *Developmental Psychology, 41*(4), 625–635. https://doi.org/10.1037/0012-1649.41.4.625

Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford: Stanford University Press.

Gottlieb, B. H. (2000). Selecting and planning support interventions. In S. Cohen, L. G. Underwood, & B. H. Gottlieb (Eds.), *Social support measurement and intervention: A guide for health and social scientists* (pp.195-220). New York: Oxford University Press.

Granovetter, M. (1973). The Strength of Weak Ties. *American Journal of Sociology, 78*(6),1360-1380. https://doi.org/10.1086/225469

Greeven, P. G. J. (1997). *De intramurale behandeling van forensische patiënten met een persoonlijkheidsstoornis: Een empirische studie*. [The inpatient treatment of forensic patients with personality disorder: an empirical study]. Arnhem, the Netherlands: Gouda Quint.

Grubin, D. (1998). *Sex offending against children: Understanding the risk*. Home Office Police Research Series Paper 99. London, United Kingdom: Home Office.

Gruenberg, E. M. (1967). The social breakdown syndrome - some origins. *American Journal Psychiatry*, *123*(12), 1481-1489. https://doi.org/10.1176/ajp.123.12.1481

Guxens, M., Nebot, M., Ariza, C., & Ochoa, D. (2007). Factors associated with the onset of cannabis use: A systematic review of cohort studies. *Gaceta Sanitaria, 21*, 252-260.

Hairston, C. F. (1991). Family ties during imprisonment: Important to whom and for what? *Journal of Sociology and Social Welfare*, *18*(1), 87-104.

Hammer, M., Makiesky-Barrow, S., & Gutwirth, L. (1978). Social networks and schizophrenia. *Schizophrenia Bulletin*, *4*, 522-545. https://doi.org/10.1093/schbul/4.4.522

Hanson, R. K., Bourgon, G., Helmus, L., & Hodgson, S. (2009). The principles of effective correctional treatment also apply to sexual offenders: A meta-analysis. *Criminal Justice and Behavior, 36*, 865-891. https://doi.org/10.1177/0093854809338545

Hanson, R. K., & Bussière, M. T. (1998). Predicting relapse: A meta-analysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology, 66*(2), 348–362. https://doi.org/10.1037/0022-006X.66.2.348

Harris, A. J. R., Phenix, A., Hanson, R. K., & Thornton, D. (2003). *STATIC-99 Coding RulesRevised-2003*. Ottawa, Canada: Solicitor General Canada.

Hart, S. D., Michie, C., & Cooke, D. J. (2007). Precision of actuarial risk assessment instruments. *British Journal of Psychiatry, 190*, 60-65. https://doi.org/10.1192/bjp.190.5.s60

Hartman, A. (1995). Diagrammatic assessment of family relationships. *Families in Society, 76,* 111-122.

Haynie, D. (2001). Delinquent Peers Revisited: Does Network Structure Matter? *American Journal of Sociology, 106*, 1013-57. https://doi.org/10.1023/A:1015227414929

Haynie, D. (2002). Friendship networks and delinquency*:* The relative nature of peer *delinquency. Journal of Quantitative Criminology*, *18*, 99–134. https://doi.org/10.1023/A:1015227414929

Heider, F. (1946). Attitudes and cognitive organization. *Journal of Psychology, 21,* 107-112. https://doi.org/10.1080/00223980.1946.9917275

Heller, K., & Swindle, R. W. (1983). Social networks, perceived social support, and coping with stress. In R. D. Feiner, L.A. Jason, J. N. Moritsugu, & S. S. Farber (Eds.), *Preventive psychology: Theory, research and practice* (pp. 87-103). New York: Pergamon Press.

Hildebrand, M., De Ruiter, C., & Van Beek, D. (2001). *SVR-20: Richtlijnen voor het beoordelen van het risico van seksueel gewelddadig gedrag*. Utrecht: Forum Educatief.

Hildebrand, M., Hesper, B. L., Spreen, M., & Nijman, H. L. I. (2005). *De waarde van gestructureerde risicotaxatie en van de diagnose psychopathie: een onderzoek naar de betrouwbaarheid van de HCR-20, HKT-30 en PCL-R.[The value of structured risk assessment and the diagnosis psychopathy: Research]*. Utrecht: Expertisecentrum Forensische Psychiatrie.

Hildebrand, M., & Ruiter, C. de (2004). PCL-R psychopathy and its relation to DSM-IV Axis I and Axis II disorders in a sample of male forensic psychiatric patients in the Netherlands. *International Journal of Law and Psychiatry, 27*, 233-248. https://doi.org/10.1016/j/ijlp.2004.03.005

Hindelang, M. J. (1973). Causes of delinquency: A partial replication and extension. *Social Problems, 20(4)*, 471-487. https://doi.org/10.1525/sp.1973.20.4.03a00070

Hilterman, E. L. B. (1999). *Tijdens de oefening terug naar af: Een onderzoek naar de voorspelling van recidive door ter beschikking gestelden tijdens verlof*. [A study about the prediction of recidivism by Dutch forensic psychiatric patient during their leaves]. Nijmegen: KUN.

Hirsch, B. J. (1979). Psychological dimensions of social networks: A multimethod analysis. *American Journal of Community Psychology, 7,* 263-277. https://doi.org/10.1007/BF00890691

Hirsch, B. J. (1980). Natural support systems and coping with major life changes. *American Journal of Community Psychology, 8(2),* 159-172. https://doi.org/10.1007/BF00912658

Hirschi, T. (1969). *Causes of delinquency*. Berkeley, CA: University of California Press.

Hirschi, T. (1977). Causes and prevention of juvenile delinquency. *Sociological Inquiry*, *47*, 322-341. https://doi.org/10.1111/j.1475-682X.1977.tb00804.x

Hirschi, T., & Gottfredson, M. (1983). Age and the explanation of crime. *American Journal of Sociology, 89(3),* 552-584. https://doi.org/10.1086/227905

Höing, M., & Vogelvang, B. (2011). *European Handbook. Circles of Support and Accountability.* The Netherlands: s' Hertogenbosch: Circles Together for Safety/ Circles NL.

Höing, M., Bogaerts, S., &Vogelvang, B. (2013). Circles of support and accountability: How and why they work for sex offenders. *Journal of Forensic Psychology Practice, 13*, 267-295. https://doi.org/10.1080/15228932.2013.808526

Höing, M., Bogaerts, S., & Vogelvang, B. (2016). Helping Sex Offenders to Desist Offending: The Gains and Drains for CoSA Volunteers: A Review of the Literature. *Sexual Abuse: A journal of research and treatment, 28*(5), 364-402. https://doi.org/10.1177/1079063214535816

Huitsing, G., Snijders, T., Van Duijn, M., & Veenstra, R. (2014). *Victims, bullies, and their defenders: A longitudinal study of the coevolution of positive and negative networks. Development and Psychopathology, 26*(3), 645-659. https://doi.org/10.1017/S0954579414000297

Hyde, A. P. (1997). Coping with the threatening, intimidating, violent behaviors of people with psychiatric disabilities living at home: Guidelines for family caregivers. *Psychiatric Rehabilitation Journal*, *21,* 144-149. https://doi.org/10.1037/h0095002

Kadushin, C. (2012). *Understanding Social Networks*. Theories, concepts and findings. Oxford University Press.

Kadzin, A. E. (2010). Single-Case Research Designs: Methods for Clinical and Applied Settings 2nd Edition. New York, NY: Oxford University Press.

Kalish, Y., & Robins, G. L. (2006). Psychological predispositions and network structure: The relationship between individual predispositions, structural holes and network closure. *Social Networks, 28,* 56-84. https://doi.org/10.1016/j.socnet.2005.04.004

Kalmijn, M. (2003). Shared friendships networks and the life course: an analysis of survey data on married and cohabiting couples. *Social Networks, 25,* 231-249. https://doi.org/10.1016/S0378-8733(03) 00010-8

Kandel, D. B. (1985). On processes of peer influences in adolescent drug use: A developmental perspective. *Advances in Alcohol & Substance Abuse, 4*(3-4), 139–163. https://doi.org/10.1300/J251v04n03_07

Katz, S. J., Conway, C. C., Hammen, C. L., Brennan, P. A., & Najman, J. M. (2011). Childhood social withdrawal, interpersonal impairment, and young adult depression: A mediational model. *Journal of Abnormal Child Psychology, 39*(8), 1227–1238. https://doi.org/10.1007/s10802-011-9537-z

Kessler, R., Adler, L., Barkley, R., Biederman, J., Connors, K., Demler, O., Faraone, S., Greenhill, L., Howes, M., Secnik, K., Spencer, T., Ustun, B., Walters, E., & Zaslavsky, A. (2006). The prevalence and correlates of adult ADHD in the United States: Results from the National Comorbidity Survey Replication. *American Journal of Psychiatry, 163*(4), 716-723. https://doi.org/10.1176/appi.ajp.163.4.716

Knight, K. W., & Tripodi, T. (1996). Societal Bonding and Delinquency: An Empirical Test of Hirschi's Theory of Control. *Journal of Offender Rehabilitation*, *23,* 117-129. https://doi.org/10.1300/J076v23n01_12

Knipscheer, C. P. M., & Antonucci, T. C. (1990). *Social network research, substantive issues and methodological questions.* Amsterdam/Lisse, the Netherlands: Swets & Zeitlinger B.V.

Kooij, S. J. J. (2009). *ADHD bij volwassenen. Diagnostiek en behandeling*. [ADHD in adults. Diagnostics and treatment]. Amersfoort: Drukkerij Wilco, the Netherlands.

Krackhardt, D. (1992). The strength of strong ties: The importance of Philos in Organizations. In N. Nohria & R. Eccles (eds.), Network and Organizations: structure, form and action: 216-239. Boston, MA: Harvard Business School Press.

Krackhardt, D. (1999). The Ties That Torture: Simmelian Tie Analysis In Organizations. *Research in the Sociology of Organizations, 16,* 183-210. https://doi.org/10.1007/978-3-658-21742-6_70

Krohn, M., & Massey, J. L. (1980). Social control and Delinquent Behavior: An examination of the Elements of Social Bonds. *Sociological Quarterly*, *21,* 529-543. https://doi.org/10.1111/j.1533-8525.1980.tb00634.x

Kumar, S., & Browne, M. A. O. (2008). Usefulness of the Construct of Social Network to Explain Mental Health Service Utilization by the Maori Population in New Zealand. *Transcultural Psychiatry*, *45,* 439-454. https://doi.org/10.1177/1363461508094675

Kunst, M., Bogaerts, S., & Winkel, F. (2009). Peer and inmate aggression, type D-personality and posttraumatic stress among Dutch prison workers. S*tress and Health: Journal of the International Society for the Investigation of Stress*, *25,* 387-395. https://doi.org/10.1002/smi.1247

Kwekkeboom, R., & te Poel, Y. (2010). De familie als bondgenoot – een wederkerige opleiding. In: J. Steyaert, & R. Kwekkeboom (eds.). *Op zoek naar duurzame zorg*. The Netherlands, Utrecht: Movisie /Wmo werkplaatsen.

Lacey, R. E., Kumari, M., & Bartley, M. (2014). Social isolation in childhood and adult inflammation: evidence from the National Child Development Study, *Psychoneuroendocrinology*, *50*, 85-94. https://doi.org/10.1016/j.psyneuen.2014.08.007

Lee, S., Lee, M. T. Y., Chiu, M. Y. L., & Kleinman, A. (2005). Experience of

social stigma by people with schizophrenia in Hong Kong. *British Journal of Psychiatry*, *186*, 153–157. https://doi.org/10.1192/bjp.186.2.153

Lindenberg, S. (1991). Social approval, fertility and female labour market behavior. In J. J. Siegers, J. De Jong-Gierveld, & I. Van Imhoff (eds.). *Females' 1991 Labour Market Behaviour and Fertility: A Rational-choice Approach*. Springer-Verlag, New York.

Lindenberg, S. (1996). Continues in the theory of social productions functions. In H. Ganzenboom, & S. Lindenberg (Eds.), *Verklarende sociologie: Opstellen voor Reinhard Wippler* (pp.169-184). Amsterdam: Thesis.

Lindenberg, S. & Frey, B. S. (1993). Alternatives, frames, and relative prices: A broader view of rational choice theory. *Acta Sociologica, 36,* 191–205.

Lindgren, C. L. (1990). Burnout and social support in family caregivers. *Western Journal of Nursing Research, 12*(4), 469-487. https://doi.org/10.1177/019394599001200404

Lindqvist, P., & Skipworth, J. (2000). Evidence-based rehabilitation in forensic psychiatry. *British Journal of Psychiatry, 176*(4), 320-323. https://doi.org/10.1192/bjp.176.4.320

Mann, R. E., Webster, S. D., Schofield, C., & Marshall, W. L. (2004). Approach versus avoidance goals in relapse prevention with sexual offenders. *Sexual abuse: A journal of Research and Treatment, 16(1),* 65-75. https://doi.org/10.1023/B%3ASEBU.0000006285.73534.57

Marshall, W. L., Cripps, E., Anderson, D., & Cortoni, F. (1999). Self-esteem and coping strategies in child molesters. *Journal of Interpersonal Violence, 14(9),* 955-962. https://doi.org/10.1177/088626099014009003

Marques, J. K., Wiederanders, M., Day, D. M., Nelson, C., & Ommeren, A. (2005). Effect of a relapse prevention program on sexual recidivism: final results from California's sex offender treatment and evaluation project (SOTEP). *Sexual Abuse: a journal of research and treatment, 17*(1), 79-107. https://doi.org/10.1007/s11194-005-1212-x

Massoglia, M., & Uggen, C. (2010). Settling down and aging out: Toward an interactionist theory of desistance and the transition to adulthood. *American Journal of Sociology*, *116*(2), 543-582. https://doi.org/10.1086/653835

Matejkowski, J., Caplan, J. M., & Wiesel Cullen, S. (2010). The impact of Severe Mental Illness On Parole Decisions. Social Integration Within a Prison Setting. *Criminal Justice and Behavior, 37*, 1005-1029. https://doi.org/10.1177/0093854810372898

May, B., & Bos J. (2000) Personality characteristics of ADHD adults assessed with the Millon Clinical Multiaxial Inventory-II: evidence of four distinct subtypes. *Journal of Personality Assessment, 75*(2), 237–248. https://doi.org/10.1207/S15327752JPA7502_5

McCarthy, B., & Hagan, J. (1995). Getting into street crime: The structure and process of criminal embeddedness. *Social Science Research, 24*, 63-69. https://doi.org/10.1006/ssre.1995.1003

McCarty, C., Lubbers, M. J., Vacca, R., & Molina, J. L. (2019). *Conducting Personal Network Research. A practical guide*. New York: the Guilford Press.

McNeill, F., Raynor, P., & Trotter, C. (2010). *Offender Supervision. New directions in theory, research and practice.* Devon, United Kingdom: Willan Publishing.

McNeill, F., & Whyte, B. (2007). *Reducing Reoffending. Social Work and community justice in Scotland.* Devon, United Kingdom: Willan Publishing.

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a Feather: Homophily in Social Networks. *Annual Review of Sociology*, *27*, 415-444. https://doi.org/10.1146/annurev.soc.27.1.415

Meinema, T. (2017). *Wat werkt bij eigen regie*. Movisie, kennis en aanpak van sociale vraagstukken. Retrieved from: https://www.movisie.nl/sites/movisie.nl/files/publication-attachment/Publicatie-wat-werkt-bij-eigen-regie%20%5BMOV-13463706-1.0%5D.pdf

Milardo, R. M. (1986). Personal choice and social constraint in close relationships: applications of network analysis. In Derlega, V. D., & Winstead, B. A. (Ed.), *Friendship and social interaction* (pp.145-166). New York: Springer Verlag.

Miller, R. H., & Sim, I. (2004). Physician´s Use of Electronic Medical Records: Barriers and Solutions. *Health Affairs*, *23*(2), 116-126. https://doi.org/10.1377/hlthaff.23.2.116

Ministry of Justice (1994). *TBS, a special hospital order of the Dutch criminal code*. The Hague, the Netherlands.

Ministry of Justice (2008). *About TBS*. Retrieved from: http://english.justitie.nl/themes/tbs/about-tbs/

Moffitt, T. (1993). Adolescence-limited and life-course-persistent antisocial behaviour: a development taxonomy. *Psychological Review, 100*(4), 674-701. https://doi.org/10.1037/0033-295X.100.4.674

Mollenhorst, G. (2009). *Networks in Contexts. How Meeting Opportunities Affect Personal Relationships.* ICS-dissertation, Utrecht, the Netherlands.

Monahan, J. (1981). *Predicting violent behaviour, an assessment of clinical techniques.* London: Sage Library of Social Research.

Monahan, J., Steadman, H. J., Silver, E., Appelbaum, P., Robbins, P., Mulvey, E., . . . Banks, S. (2001). *Rethinking Risk Assessment: The MacArthur Study of Mental Disorder and Violence.* Oxford: Oxford University Press.

Nagtegaal, M. H., & Schonberger, H. J. M. (2013). *Het belang van beschermende factoren in risicotaxatie van tbs-gestelden*. Memorandum 2013-01. Den Haag: WODC.

Nakhaie, M. R., & Sacco, V. F. (2009). Social capital, individual disorders and property offences. *International Journal of Law and Psychiatry, 32*, 392-399. https://doi.org/10.1016/j.ijlp.2009.09.009

Nelson, M., Deess, P., & Allen., C. (1999). *The First Month Out: Post-Incarceration Experiences in New York City*. New York: The Vera Institute.

Nettelbladt, P., Svensson, C., Serin, U., & Ojehagen, A. (1995). The social network of patients with schizoaffective disorder as compared to patients with diabetes and to healthy individuals. *Social science & medicine, 41, 901-907*. https://doi.org/10.1016/0277-9536(94)00390-F

Nordström, A., & Kullgren, G. (2003). Victim relations and victim gender in violent crimes committed by offenders with schizophrenia. *Social Psychiatry and Psychiatric Epidemiology, 38*, 326–330. https://doi.org/10.1007/s00127-003-0640-5

Odonne-Paolucci, E. O., Violato, C., & Schofield, M. A. (2000). *A review of marital and family variables as they relate to adult criminal recidivism*. Calgary, Canada: National Foundation for Family Research and Education.

Olver, M. E., Wong, S. C. P., & Nicholaichuk, T. P. (2009). Outcome Evaluation of a High-Intensity Inpatient Sex Offender Treatment Program. *Journal of Interpersonal Violence, 24*(3), 522-536. https://doi.org/10.1177/0886260508317196

Ormel, J., Lindenberg, S., Steverink, N., & Verbrugge, L. M. (1999). Subjective well being and social production functions. *Social Indicator Research, 46*, 61-90.

Parlementair onderzoek TBS. (2006). *Tbs, vandaag over gisteren en morgen*. Sdu Uitgevers 's_Gravenhage. Retrieved from: https://www.parlement.com/9291000/d/tk30250_5.pdf

Pattison, E. M., & Pattison, M. L. (1981). Analysis of a schizophrenic, psychosocial network. *Schizophrenia Bulletin*, *7*, 135-141.

Pawson, R., & Tilley, N. (1997). *Realist Evaluation*. London: Sage.

Pescosolido, B. A., & Rubin, B. (2000). The web of group affiliations revisited: social life, postmodernism, and sociology. *American Sociological Review*, *65,* 52-76

Pickersgill, M. (2012). What is psychiatry? Co-producing complexity in mental health. *Social Theory and Health, 10*, 328-347. https://doi.org/10.1057/sth.2012.9

Pol, M. (1995). *Sociale Netwerken van Forensisch Psychiatrische Patiënten*. Methode ten behoeve van Diagnostiek Behandeling Rehabilitatie. [The social networks of forensic psychiatric

patients. Method for Diagnostic Treatment Rehabilitation]. University Utrecht, the Netherlands.

Pomp, L. (2005). *Zonder (ver)anderen lukt het niet: Een onderzoek naar de mogelijkheden tot het opstellen van een theoretisch profiel voor individueel risico assessment*. Scriptie sociologie. Groningen: Rijksuniversiteit Groningen & Dr. S. van Mesdagkliniek.

Pomp, L., Hendriks, G., Kremer, S., & Spreen, M. (2007). Een blik over de muren. *GGzet Wetenschappelijk*, *11*, 29-53.

Pomp, L., Spreen, M., Bogaerts, S., & Volker, B. (2010). The Role of Personal Social Networks in Risk Assessment and Management of Forensic Psychiatric Patients. *Journal of Forensic Psychology and Practice*, *10*, 267 - 284. https://doi.org/10.1080/15228932.2010.481232

Portes, A. (1998). Social Capital: Its Origins and Applications in Modern Sociology. *Annual Review of Sociology, 24*, 1-24. https://doi.org/10.1146/annurev.soc.24.1.1

Randal, A. K., & Bodenmann, G. (2009). The role of stress on close relationships and marital satisfaction. *Clinical Psychology Review*, *29*(2), 105-15. https://doi.org/10.1016/j.cpr.2008.10.004

Resnick, M. D., Ireland, M., & Borowski, I. (2004). Youth violence perpetrations: What protects? What predicts? Findings from the National Longitudinal Study of Adolescent Health. *Journal of Adolescent Health*, *35*, 424.e1-424.e10. https://doi.org/10.1016/j.jadohealth.2004.01.011

Rice, P. L. (1999). Stress and Health (2nd ed.). California: Brookes/Cole.

Richardson, D. S., & Hammock, G. S. (2007). Social context of human aggression: Are we paying too much attention to gender? *Aggression and Violent Behavior, 12*, 417-426. https://doi.org/10.1016/j.avb.2006.11.001

Robinson, N. S., & Garber, J. (1995). Social support and psychopathology across the life span. In D. Cicchetti, & D. J. Cohan (Ed.) *Developmental Psychopathology*: Vol 2 (pp. 162-209). New York: John Wiley and Sons, Inc.

Sampson, R. J., & Laub, J. H. (1990). Crime and Deviance Over the Life Course: The Salience of Adult Social Bonds. *American Sociological Review, 55*, 609-627. https://doi.org/10.2307/2095859

Sampson, R. J., & Laub, J. H. (2005). *A Life-Course View of the Development of Crime. Annals of the American of Political and Social Science, 602*, 12-45. https://doi.org/10.1177/0002716205280075

Sampson, R. J., Laub, J. H., & Wimer, C. (2006). Does marriage reduce crime? A counterfactual approach to within-individual causal effects. *Criminology*, *44*(3), 465-508. https://doi.org/10.1111/j.1745-9125.2006.00055.x

Sarason, B. R., Sarason, I. G., & Pierce, G. R. (1990). Traditional views of social support and their impact on assessment. In: B.R. Sarason, I.G. Sarason, & G.R. Pierce (Eds.), *Social Support: An international view* (pp. 9-25). Wiley, New York.

Savard, C., Sabourin, S., & Lussier, Y. (2006). Male sub-threshold psychopathic traits and couple distress. *Personality and Individual Differences, 40*, 931-942. https://doi.org/10.1016/j.paid.2005.10.001

Schulze, B., & Angermeyer, M. C. (2003). Subjective experiences of stigma. A focus group study of schizophrenic patients, their relatives and mental health professionals. *Social Science and Medicine*, *56*, 299-321. https://doi.org/10.1016/s0277-9536(02)00028-x

Schuringa, E., Spreen, M., & Bogaerts, S. (2014). Inter-rater and test-retest reliability, internal consistency and factorial structure of the Dutch Instrument for Forensic Treatment Evaluation. *Journal of Forensic Psychology Practice*, *14*(2), 127-144. https://doi.org/10.1080/15228932.2014.897536

Scott, C. L., & Resnick, P. J. (2006). Violence risk assessment in persons with mental illness. *Aggression and Violent Behavior*, *11*(6), 547–676. https://doi.org/10.1016/j.avb.2005.12.003

Shapiro, C., & diZegera, M. (2010). It's relational: integrating family into community corrections. In: F. McNeill, P. Raynor, & C. Trotter (Eds.). *Offender supervision. New directions in theory, research and practice* (pp. 241-256). New York: Willan publishing.

Singh, J. P., Dersmarais, S. L., Hurducas, C., Arbach-Lucioni, K., Condemarin, C., Dean, K., . . . Otto, R. K. (2014). International perspectives on the practical application of violence risk assessments: a global survey of 44 countries. *International Journal of Forensic Mental Health, 13*(3), 193-206. https://doi.org/10.1080/14999013.2014.922141

Skeem, J., Encandela, J., & Eno-Louden, J. (2003). Experiences of mandated mental health treatment in traditional and specialty probation programs. *Behavioral Sciences & the Law, 21*, 429-458. https://doi.org/10.1002/bsl.547

Skeem, J., Louden, J. E., Manchak, S., Vidal, S., & Haddad, E. (2009). Social networks and social control of probationers with co-occuring mental and substance abuse problems. *Law and Human Behavior, 33*, 122-135. https://doi.org/10.1007/s10979-008-9140-1

Smid, W. J., Koch, M., & Berg, J. W., van den (2014). *Static-99R Scorehandleiding* (herziene uitgave 2014). (Bewerkte vertaling van Harris, A. J. R., Phenix, A., Hanson, R. K., & Thornton, D. STATIC-99R Coding Manual: Revised 2003. Her Majesty The Queen in Right of Canada, 2003). Utrecht: De Forensische Zorgspecialisten.

Smith, W. R., & Smith, D. R. (1998). The Consequences of Error: Recidivism Prediction and Civil-Libertarian Ratios. *Journal of Criminal Justice, 26,* 1-23. https://doi.org/10.1016/S0047-2352(98)00026-9

Sokol-Katz, J. S., Dunham, R. G., & Zimmerman, R. S. (1997). Family Structure versus Parental Attachment in Controlling Adolescent Deviant Behavior: A Social Control Model. *Adolescence*, *32,* 299-215.

Speck, R., & Attneave, C. (1973). *Family networks: Retribalization and healing*. New York: Pantheon.

Spreen, M. (1999). *Sampling personal network structures: statistical inference in ego-graphs.* Proefschrift Rijksuniversiteit Groningen. Amsterdam: Thesis Publishers.

Spreen, M., Brand, E., Ter Horst, P., & Bogaerts, S. (2014). *Handleiding en methodologische verantwoording HKT-R. Historische, Klinische en Toekomstige – Revisie. [Guideliness en methodological Justification – Revised].* Stichting FPC Dr. S. van Mesdag.

Spreen, M., & Pomp. L. (2009). *Landelijke implementatie Forensische Sociale Netwerk Analyse (FSNA): procesevaluatie*. [nationwide implementation Forensic Social Network Analysis (FSNA): process evaluation]. Utrecht, the Netherlands: The Expertise center for Forensic Psychiatry.

Spreen, M., Pomp, L., & Vermeulen, T. (2006). De methode van Sociale Netwerk Analyse toegepast in het forensische veld. Enige eerste stappen in forensische psychiatrisch- en cold-case onderzoek. *Panopticon*, *1*, 80-86.

Spreen M., Volker, B., Flap H., (2002). Structural Dimension of Social Capital: Estimating the Number of Seemingly Unrelated Pairs of Alters from Ego's Perspective. In: J. Hagberg, *Contribution to Social Network Analyses, Information Theory and Other Topics in Statistics,* A festschrift in Honour of Ove Frank on the Occasions of His 65th Birthday (pp. 18-39), Stockholm: Stockholm University.

Stake, R.E. (2005) *Multiple Case Study Analysis.* New York: Guilford Publications.

Steadman, H. J., Mulvey, E. P., Monahan, J. Robbins, P. C., Appelbaum, P. S., Grisso, T., Roth, L. H., & Silver, E. (1998). Violence of People Discharged from Acute Psychiatric Inpatient Facilities and by Others in the Same Neighborhoods. *Archives of of General Psychiatry, 55,* 393-401. https://doi.org/10.1001/archpsyc.55.5.393

Sutherland, E. H. (1947). *Principles of criminology* (4th ed.). Philadelphia, PA: Lippincott.

Sutherland, E. H., Cressey, D. R., & Luckenbill, D. F. (1992). Principles of criminology. Dix Hills, N.Y.: General Hall.

Ter Haar-Pomp, L., Bogaerts, S., & Spreen, M. (2016). Risk management in the forensic psychiatry: Integrating a social network approach. In M. Cima (Ed.), *The Handbook of Forensic Psychopathology and Treatment* (pp. 337-351). New York: Routledge.

Ter Haar-Pomp, L., Spreen, M., Bogaerts, S., & Volker, B. (2015). The personal social networks of personality disordered forensic psychiatric patients. *Journal of Social Work*, *15*(3), 254-276. https://doi.org/10.1177/1468017314537425

Terhell, E. L., Broese Van Groenou, M. I., & Tilburg, T. G. van (2007). Network contact changes in early and later postseparation years. *Social Networks, 29*, 11-24. https://doi.org/10.1016/j.socnet.2005.11.006

Toner, M., O'Donoghue, T., & Houghton, S. (2006). Living in chaos and striving for control: How adults with attention deficit hyperactivity disorder deal with their disorder. *International Journal of Disability, Development and Education, 53*(2), 247-262. https://doi.org/10.1080/10349120600716190

Tracy, E. M., Min, M. O., Park, H., Jun, M., Brown, S., & Francis, M. W. (2016). Personal network structure and substance use in women by 12months post treatment intake. *Journal of Substance Abuse Treatment, 1*, 55-61. https://doi.org/10.1016/j.sat.2015.11.002

Vance, J. E., Bowen, N. K., Fernandez, G., & Thomson, S. (2002). Risk and protective factors as predictors of outcome in adolescents with psychiatric disorder and aggression. *Journal of the American Academy of Child & Adolescent Psychiatry*, *41*, 36-43. https://doi.org/10.1097/00004583-200201000-00009

Van den Brink, R. H. S., Troquete, N. A. C., Beintema, H., Mulder, T., van Os, T. W. D. P., Schoevers, R. A., & Wiersma, D. (2015). Risk assessment by client and case manager for shared decision making in outpatient forensic psychiatry. *BMC Psychiatry, 15*, 120. https://doi.org/10.1186/s12888-015-0500-3

Van der Gaag, M. P. J. (2005). *Measurement of individual social capital* (dissertation). Groningen, University of Groningen.

Horst, R. van der (2011). *Network effects on treatment results in a closed forensic psychiatric setting* (dissertation). Groningen, University of Groningen.

Van der Poel, M. G. (1993). Delineating personal support networks. *Social Networks, 15*(1), 49–70. https://doi.org/10.1016/0378-8733(93)90021-C

Van Horn, J. E., Eisenberg, M. J., Bouman, Y. H. A., Van den Hanenberg, F. J. A. C., Van der Put, C. E., & Bogaerts, S. (2016). Handleiding Forensisch Ambulant Risico Evaluatie – FARE Volwassen cliënten vanaf 18 jaar, versie 1.0. Programma Kwaliteit Forensische Zorg.

Van Marle, H. J. C. (2002). The Dutch Entrustment Act (tbs): Its principles and Innovations. *International Journal of Forensic Mental Health*, *1*, 83-92. https://doi.org/10.1080/14999013.2002.10471163

Veiel, H. O. F., & Bauman, U. (1992). *The meaning and measurement of Social Support*. New York: Hemisphere.

Vilhjalmsson, R. (1994). Effects of social support on self-assessed health in adolescence. *Journal of Youth and Adolescence*, *23*, 437–52. https://doi.org/10.1007/BF01538038

Volker, B. (2001). *Where friends are made contexts, contact, consequences.* Utrecht university, department of Sociology.

Wahl, O. F. (1999). Mental health consumers' experience of stigma. *Schizophrenia Bulletin*, *25*, 467-478. https://doi.org/10.1093/oxfordjournals.schbul.a033394

Walker, M., Wasserman, S., & Wellman, B. (1994). Statistical models for social support network. In S. Wasserman, & J. Galaskiewicz (Eds.). *Advances in social network analysis: Research in the social and behavioral sciences* (pp. 53-79). Thousand Oaks, CA: SAGE Publications, Inc. https://doi.org/10.4135/9781452243528.n3

Ward, T., & Beech, A. (2004). The etiology of risk: A preliminary model. *Sexual Abuse: A Journal of Research and Treatment*, *6,* 271-284. https://doi.org/10.1177/107906320401600402

Ward, T., Mann, R. E., & Gannon, T. A. (2007). The good lives model of offender rehabilitation: Clinical implications. *Aggression and Violent Behavior, 12*(1), 87-107. https://doi.org/10.1016/j.avb.2006.03.004

Ward, T., Melser, J., & Yates, P. M. (2007). Reconstructing the Risk–Need–Responsivity model: A theoretical elaboration and evaluation. *Aggression and Violent Behavior, 12,* 208-228. https://doi.org/10.1016/j.avb.2006.07.001

Ward, T., & Stewart, C. A. (2003). The treatment of sex offenders: Risk management and good lives. *Professional Psychology Research and Practice, 34*(4), 353-360. https://doi.org/10.1037/0735-7028.34.4.35

Warr, M. (2002). *Companions in crime*. The social aspects of criminal conduct. Cambridge: Cambridge University Press.

Wasserman, S., & Faust, K. (1994). *Social Network Analysis, methods and application*. Cambridge: Cambridge university press.

Webster, C. D., Martin, M. L., Brink, J., Nicholls, T. L., & Middleton, C. (2004). Manual for the Short Term Assessment of Risk and Treatability (START). Version 1.0, Consultation edition. St. Joseph's Healthcare, Hamilton, Ontario, Canada, and Forensic Psychiatric Services Commission, Port Coquitlam, British Columbia, Canada.

Wellman, B., Wong, R. Y. D., Tindall, D., & Nazer, N. (1997). A Decade of Network Change: Turnover, Persistence, and Stability in Personal Communities. *Social Networks, 19*(1), 27-50. https://doi.org/10.1016/S0378-8733(96)00289-4

Werkgroep iFPA Risicomanagement (2013). *Werkgroep risicomanagement: Advies 2013 versie 10-09-1* [Workgroup risk management: advice 2013 version 10-09-1]. Expertisecentrum Forensische Psychiatrie.

Wetboek van Strafvordering (1921). *Code of Criminal Procedure*. www.overheid.nl.

Whisman, M. A., Tolejko, N., & Chatav, Y. (2007). Social consequences of personality disorders: probability and timing of marriage and probability of marital disruption. *Journal of Personality Disorders, 21*, 690-695. https://doi.org/10.1521/pedi.2007.21.6.690

Whittaker, J. K. (1992). Enhancing social support for high risk youth and their families following residential care. In: J. D. Van der Ploeg, P. M. Van den Bergh, M. Klomp, E. J. Knorth, & M. Smit (eds.), *Vulnerable youth in residential care. Part 1: social competence, social support and social climate*. Belgium, The Netherlands, Leuven/Apeldoorn: Garant.

Widiger, T. A. (2003). Personality disorder diagnosis. World Psychiatry, 2, 131–135. Retrieved from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1525106

Wilson, R. J., Cortoni, F., & McWhinnie, A. (2009). Circles of support & accountability: A Canadian national replication of outcome findings. *Sexual Abuse: A Journal of Research and Treatment, 21*, 412-430. https://doi.org/10.1177/1079063209347724

Wilson, R. J., Picheca, J., & Prinzo, M. (2005). *Circles of Support & Accountability: An evaluation of the pilot project in South-Central Ontario*. Ottawa, Canada: Correctional Service of Canada.

Wilson, R. J., Picheca, J. E., & Prinzo, M. (2007). Evaluating the effectiveness of professionally- facilitated volunteerism in the community-based management of high-risk sexual offend-

ers: Part two-Recidivism. *The Howard Journal of Criminal Justice*, *46*, 327-337. https://doi.org/10.1111/j.1468-2311.2007.00480.x

Wolff, N., & Draine, J. (2004). Dynamics of Social capital of Prisoners and Community Reentry: Ties that Bind? *Journal of Correctional Health Care, 10*, 457-490. https://doi.org/10.1177/107834580301000310

Wright, K. N., & Wright, K. E. (1992). Does getting married reduce the likelihood of criminality? A review of the literature. *Federal Probation*, *56,* 50–56. Retrieved from: https://www.ncjrs.gov/pdffiles1/Digitization/139816NCJRS.pdf

Wrzus, C., Hanel, M., Wagner, J., & Neyer, F. J. (2013). Social network changes and life events across the life span: a meta-analysis. *Psychological bulletin, 139*, 53-80. https://doi.org/10.1037/a0028601

Zhou, L., Soran, C. S., Jenter, C. A., Volk, A. L., Orav, E. J., Bates, D. W., & Simon, S. R. (2009). The Relationship between Electronic Health Record Use and Quality of Care over Time. *Journal of the American Medical Informatics Association*, *16*(4), 457-464. https://doi.org/10.1197/jamia.M3128

Samenvatting

Doel van het proefschrift

Netwerkbenaderingen dragen bij aan het beter zicht krijgen op hoe personen (inter) acteren binnen een specifieke sociale context (McCarty, Lubbers, Vacca, & Molina, 2019; Wasserman & Faust, 1994). Opmerkelijk is dat een persoonlijke netwerkbenadering met een focus op de forensisch psychiatrische populatie ontbrak in de klinische praktijk. Het doel van dit proefschrift was om te onderzoeken hoe een persoonsgerichte sociale netwerkbenadering aanvullende informatie kan verschaffen ter ondersteuning van behandelbeslissingen. Dit resulteerde in de volgende verkennende onderzoeksvraag: "*in hoeverre en in welk opzicht kan een persoonlijke netwerkbenadering bijdragen aan een beter begrip van het risicogedrag van forensisch psychiatrische patiënten?*".

Een persoonlijk netwerk perspectief in de forensisch psychiatrische context

Hoofdstuk 1 is gericht op hoe persoonlijke netwerkvariabelen het risicogedrag van een specifieke patiënt beïnvloeden. Inzichten vanuit de risicotaxatie- en management literatuur werden gecombineerd met de wetenschappelijke discipline sociale-netwerkanalyse (SNA), met de specifieke focus op persoonlijke netwerk perspectieven (Kadushin, 2012; McCarty et al., 2019; Wasserman & Faust, 1994). De theoretische concepten 'sociale invloed', 'sociaal kapitaal', 'sociale steun' en 'sociale steun' werden gerelateerd aan netwerkcompositie (de verdeling van risicovolle en beschermende kenmerken van netwerkleden) en netwerkstructuur (de beschermende en risicovolle relationele patronen tussen patiënten en netwerkleden en tussen netwerkleden onderling). Dit stelde ons in staat om de gesignaleerde protectieve en risicovolle kenmerken van het netwerk mee te laten wegen in individuele risicobeoordelingen.

Het forensische sociale-netwerkanalyse (FSNA) gegevensverzamelingsinstrument

Hoofdstuk 2 introduceert het forensische sociale-netwerkanalyse (FSNA) gegevensverzamelingsinstrument. Deze methode voor gegevensverzameling is kwalitatief georiënteerd met een sterke focus op individuele verhaallijnen. Dit om een beter begrip

te krijgen van hoe forensische patiënten hun acties conceptualiseren (Agnew, 2006; Monahan, 1981). De kern van de FSNA-benadering is het systematisch beantwoorden van de volgende drie basisvragen:

1. Welke netwerkleden/persoonlijke relaties hebben een risicoverhogende en/of een risicoverlagende (beschermende) invloed op het gedrag van de patiënt in de aanloop naar het delict?
2. Welke netwerkleden/persoonlijke relaties hebben een risicoverhogende en/of een risicoverlagende (beschermende) invloed op het gedrag van de patiënt in huidige en toekomstige sociale situaties?
3. Wat zijn de verschillen en overeenkomsten tussen de risicoverhogende en/of risicoverlagende invloeden die netwerkleden hebben op het gedrag van patiënten in huidige en toekomstige risicoverhogende sociale situaties in vergelijking met die in de aanloop naar het gepleegde delict?

Om de drie onderzoeksvragen te kunnen beantwoorden, zijn semigestructureerde FSNA-vragenlijsten voor de patiënten en hun netwerkleden ontwikkeld. De FSNA-interview topics zijn geëxtraheerd uit de in **hoofdstuk 1** besproken risicotaxatieinstrumenten, risicomanagement modellen, en sociale netwerktheorieën.

De geïntroduceerde FSNA-benadering (**hoofdstukken 1 & 2**) werd gebruikt om de persoonlijke netwerken van forensisch psychiatrische patiënten in de loop van de tijd te onderzoeken op zowel groepsniveau (**hoofdstuk 3**) als individueel niveau (**hoofdstukken 4 & 5**).

Een vergelijking tussen de historische en de klinische persoonlijke netwerken van forensisch psychiatrische patiënten

Ondanks dat sociale netwerkfactoren een belangrijke plaats hebben in risicotaxatieinstrumenten en risicomanagement modellen, is er nauwelijks onderzoek uitgevoerd naar de persoonlijke netwerken van forensisch psychiatrische patiënten in hun delictperiode en tijdens hun langdurige behandeling. In **hoofdstuk 3** is onderzocht in hoeverre de persoonlijke netwerken van 36 forensisch psychiatrische patiënten met persoonlijkheidsstoornissen door de tijd veranderden. Deze patiënten werden behandeld in Forensisch Psychiatrische Centra in Nederland. Wij onderzochten zowel het historische netwerk (persoonlijk netwerk in de aanloop naar en ten tijde van het delict) als het klinische netwerk (persoonlijk netwerk ten tijde van de behandeling). Netwerkgrootte, rollen, sociale steun, structuur en mogelijke risico's werden onderzocht. Patiënten stonden in hun historische persoonlijke netwerken in contact met een verscheidenheid aan

sociale netwerkleden. De grootste subgroep was de familie van de patiënten, die ook de meest waarschijnlijke slachtoffers waren van de door de patiënten gepleegde delicten. De patiënten kregen sociale steun, hoewel bijna de helft van de sociale supporters risicofactoren bezaten (strafblad, psychiatrische problemen, drugs-/alcoholgebruik, financiële problemen, en/of ernstige problemen op woongebied). Gemiddeld bestonden de historische netwerken voor een relatief klein deel uit netwerkleden met forensische risicofactoren.

De kleine beschrijvende studie laat zien dat de klinische netwerken in vergelijking met de historische netwerken minder groot waren en een lagere roldiversiteit kenden. Familieleden bleven de grootste subgroep in de klinische netwerken. De meeste familieleden in de klinische netwerken waren ook onderdeel van de historische netwerken. De waargenomen daling in netwerkgrootte lijkt geen grote invloed te hebben op de kwaliteit van de persoonlijke netwerken. Het kan soms zelfs als gunstig worden beschouwd, omdat in sommige gevallen belangrijke potentiële stressoren geen deel (meer) uitmaakten van de klinische netwerken.

Een zeer klein deel van de klinische netwerken bestond uit nieuwe persoonlijke relaties met andere forensisch psychiatrische patiënten, wat niet overeenkomt met de theoretische concepten van nabijheid (Allan, 1979; Feld & Carter, 1998), homofilie (McPherson, Smith-Lovin, & Cook, 2001) en het Social Breakdown Syndrome (Gruenberg, 1967). De verwachting was dat het forensisch psychiatrisch centrum als lokale ontmoetingsplaats belangrijk is voor het vormen van nieuwe relaties.

De persoonlijke netwerkstructuren werden onderzocht met behulp van een triadecensusmethode (Kalish & Robins, 2006). De meest voorkomende triade in beide netwerken was de als meest gewenste gedefinieerde triade (twee netwerkleden zonder forensische risicofactoren). Het aandeel van deze triade was – gemiddeld – hoger in de klinische netwerken dan in de historische netwerken. De triade, in deze studie gedefinieerd als meest risicovol (beide netwerkleden hebben forensische risicofactoren), kwam het minst vaak voor in beide netwerken. Bovendien was de proportie van deze risicovolle triade lager in de klinische netwerken. Deze bevinding is mogelijk positief voor de resocialisatiemogelijkheden van de patiënten (Akers, 1998; Haynie, 2001; Skeem, Louden, Manchak, Vidal, & Haddad, 2009; Spreen, Brand, Ter Horst, & Bogaerts, 2014).

FSNA-casestudies tijdens de behandeling in een forensisch psychiatrisch centrum

Hoofdstuk 4 beschrijft de FSNA-casestudies van drie patiënten die werden behandeld in een Forensisch Psychiatrisch Centrum. De kwalitatieve data-analyse was gericht op overeenkomsten en verschillen tussen de composities en structuren van de historische netwerken en de klinische netwerken/toekomstige netwerken. Het doel van deze vergelijking was te onderzoeken of positieve of negatieve veranderingen konden worden gekoppeld aan een verhoogd of verlaagd recidiverisico.

In alle casestudies kwamen meerdere belangrijke netwerkpatronen/-kenmerken in beeld. Bij de *eerste casestudie* ontbraken op beide tijdsmomenten netwerkleden met een ondersteunende rol in de medicatietrouw van de patiënt. Door het interviewen van zowel de patiënt als een selectie van zijn netwerkleden werd duidelijk dat de patiënt zijn vriendschappen overschatte (bij alleen zelfrapportage was dit niet ontdekt). Ook werden twee voormalige medeplegers van eerdere delicten met behulp van de zogenoemde sneeuwbalmethode ontdekt: deze personen zaten nog in het huidige netwerk van de door patiënt genoemde vrienden. Deze bevinding impliceert een toenemend risico, omdat beide voormalige vrienden nog steeds betrokken zijn bij criminele activiteiten (Andrews & Bonta, 2007, 2010; Haynie, 2001, 2002; McCarthy & Hagan, 1995; Spreen, Brand, Ter Horst, & Bogaerts, 2014).

In de *tweede studie* werd op beide tijdsmomenten een vergelijkbare risicovolle focus op een (intieme) persoonlijke relatie zichtbaar. Ook werden verschillen in perceptie waargenomen tussen de patiënt en het behandelteam. Vanuit het FSNA interview kwam bijvoorbeeld naar voren dat de patiënt zijn relatie in de aanloop naar de gepleegde delicten als 'positief' percipieerde, terwijl het behandelteam van mening was dat er sprake was van geweld binnen de relatie.

In de *derde casestudie* was sprake van een sterk gefragmenteerd persoonlijk netwerk op beide tijdsmomenten. Dit kan als riskant worden gezien vanwege de beperkte collectieve sociale controlemogelijkheden (denk aan monitoren van medicatietrouw). Bij deze casestudie zagen wij het belang van het betrekken van netwerkleden bij risicomanagementinterventies; een adequate risicostrategie werd opgesteld tussen patiënt, twee persoonlijke netwerkleden en het behandelteam; De netwerkleden volgden psycho-educatie en werden de ogen van de professionals buiten de klinische setting. Na een tijdje signaleerden de informele netwerkleden risicovolle gedragsveranderingen bij de patiënt (o.a. niet innemen van medicatie), welke ze onmiddellijk rapporteerden. Zonder de hulp van het persoonlijke netwerk was het zeer aannemelijk dat de medicatieontrouw niet tijdig was vastgesteld.

De drie casestudies toonden aan dat de informatie vanuit de FSNA-benadering zeer bruikbaar is ter ondersteuning van belangrijke behandelbeslissingen in het kader van individu-specifieke risicotaxatie en -management. De gesignaleerde overeenkomsten en verschillen tussen de onderzochte tijdsperiodes werden geduid. Het interviewen van netwerkleden zorgde voor nieuwe essentiële informatie over de mogelijke risicovolle en protectieve factoren in het persoonlijke netwerk van de patiënt.

Monitoren van risicogedrag door het managen van sociale steun tijdens verplichte poliklinische zorg: een N=1 studie

De prospectieve casestudie in **hoofdstuk 5** is gericht op de sociale steunfunctie van het persoonlijke netwerk van een patiënt gedurende zijn verplichte poliklinische behandeling. Deze patiënt was gediagnosticeerd met Attention Deficit Hyperactivity Disorder (ADHD). Een semigestructureerd FSNA-interview werd afgenomen met de patiënt en twee van zijn netwerkleden op vier momenten in zijn behandelingsproces. De netwerkleden die de patiënt sociale steun gaven, hun structurele netwerkpositie en hun potentiële risico's werden gepoold en gelabeld via de triade census-methode. De triadeanalyse toonde aan dat het aantal netwerkleden, dat praktische en emotionele steun verleende, in de loop van de tijd daalde. Deze daling resulteerde ook in een lager aandeel van de risicovolle triades in het sociale ondersteuningsnetwerk van de patiënt. Het financiële ondersteuningsnetwerk bleef nagenoeg stabiel. In de casestudie werd duidelijk dat de patiënt zich meer op formele steun richtte tijdens de poliklinische behandeling. Deze bevinding vereist aandacht tijdens de verdere behandeling, omdat het informele sociale netwerk juist een belangrijke rol speelt in het succes van de behandeling op de lange termijn (Shapiro & diZegera, 2012).

Discussie

Voor zover wij weten, heeft geen enkel eerder onderzoek de meer algemene netwerktheorie duidelijk gekoppeld aan een persoonsgerichte netwerkbenadering in een forensisch psychiatrische context. Het proefschrift laat zien dat de FSNA-benadering helpend is voor de klinische praktijk. Het draagt bij aan een beter empirisch begrip van het risicogedrag van forensisch psychiatrische patiënten in hun unieke persoonlijke sociale context. Dit is helpend voor het uitvoeren van gepersonaliseerde risicotaxatie en -management. De empirische gegevens van onze studies toonden aan dat de risicofactoren en beschermende factoren die op groepsniveau voorspelend zijn voor recidivegevaar niet noodzakelijkerwijs van toepassing waren op individueel niveau. Dit

benadrukt het unieke karakter van de betrokken sociale factoren. Het toont het belang aan van onderzoek en analyse op maat: de FSNA is zeker geen 'one size fits all model'.

Beperkingen

Dit onderzoek kent een aantal belangrijke beperkingen. Een eerste beperking is dat de validiteit van de FSNA-aanpak niet kan worden gegarandeerd. Het is nooit helemaal zeker dat FSNA-resultaten met de beschreven negatieve of positieve netwerkinvloeden de valide weerspiegeling zijn van de daadwerkelijke invloeden bij terugkeer van de patiënt in de samenleving. Ook hebben we verschillende kwalitatieve classificatiesystemen gebruikt om risico's vast te stellen. Deze classificatiesystemen blijven een noodzakelijke vereenvoudigde weergave van de complexiteit van alle meespelende variabelen.

Een tweede beperking is dat de persoonlijke netwerkgegevens over de delictperiode met terugwerkende kracht zijn verzameld en dat het zeer aannemelijk is dat onze onderzoekspopulatie niet alle relevante netwerkgegevens heeft onthouden. Ook bestaat de kans dat patiënten zich situaties herinneren op manieren die niet overeenkomen met de werkelijke situatie.

Een derde beperking is dat de kans bestaat dat de onderzochte patiënten en de geselecteerde netwerkleden relevante informatie hebben achtergehouden om zichzelf of anderen te beschermen. Dit heeft mogelijk invloed gehad op de accuraatheid van de verkregen gegevens.

Een vierde beperking is dat de persoonlijkheidsstoornissen van de bestudeerde populatie mogelijk van invloed zijn geweest op de manier waarop ze belangrijke anderen en sociale hulpbronnen identificeerden. Eerder onderzoek wees uit dat de percepties van mensen van hun persoonlijke netwerken worden beïnvloed door hun persoonlijkheidsfactoren (Casciaro, Carley, & Krackhardt, 1999; Clifton, Pilkonson, & McCarty, 2007). Toch hoeft dit geen negatieve impact te hebben op de kwaliteit, omdat de perceptie van de patiënt op zijn relaties mogelijk bepalend is voor zijn houding en eigen gedrag (Cohen & Janicky-Deverts, 2009; Mc Carty et al., 2019).

Toekomstig onderzoek

De persoonlijke netwerkbenadering, zoals beschreven in dit proefschrift, dient te worden beschouwd als een eerste stap in de ontwikkeling van een flexibele, op de praktijk gebaseerde risicomanagement tool die aanvullende informatie biedt ter ondersteuning

van behandelbeslissingen. Deze netwerkbenadering dient verder te worden uitgewerkt, getoetst en geprofessionaliseerd in de forensisch psychiatrische context en aanverwante contexten, zoals reclasseringsdiensten. Het is van groot belang dat forensisch klinische professionals en wetenschappelijke onderzoekers deze opdracht gezamenlijk oppakken, zodat beide expertisegebieden elkaar blijvend versterken.

Summary

Aim of the dissertation

Personal network approaches contribute to the understanding of how people (inter) act within a specific social context (McCarty, Lubbers, Vacca, & Molina, 2019; Wasserman & Faust, 1994). Remarkably, a personal network approach with a focus on the forensic psychiatric population was lacking in the clinical practice. The aim of this dissertation was to explore how a person-centered social network approach can provide additional information to support treatment decisions. This resulted in the following explorative question: "*To which extent and in what respect can a personal network approach contribute to a more comprehensive understanding of the risk behavior by forensic psychiatric patients?*".

A forensic psychiatric personal network perspective

Chapter 1 is focused on how personal network variables may influence a specific patient's risk behavior. Insights from the risk assessment and management literature were combined with the scientific discipline 'Social Network Analysis', with a specific focus on personal network perspectives (Kadushin, 2012; McCarty et al., 2019; Wasserman & Faust, 1994). The theoretical concepts 'social influence', 'social capital', 'social support' and 'social control' were related to network size, network composition (the distribution of risky and protective characteristics of network members) and network structure (the protective and risky relational patterns between patients and network members and between network members themselves). This enabled us to qualitatively weight the specific consequences of protective or risky network compositions and structures in the patients' individual risk assessments.

The forensic social network analysis (FSNA) data collection instrument

Chapter 2 introduces the Forensic Social Network Analysis (FSNA) data collection instrument. This data collection method is qualitatively oriented with a strong focus on individual storylines to achieve a better understanding of how forensic patients con-

ceptualize their actions and what motivates and deters them from risk-taking behavior (Agnew, 2006; Monahan, 1981).

The core of this approach is to systematically answer the following three basic questions:

1. *Which network members/personal relationships are supposed to have a risk-increasing and/or a risk-reducing (protective) influence on patient's behavior in the run-up to the crime?*
2. *Which network members/personal relationships are supposed to have a risk-increasing and/or a risk-reducing (protective) influence on patient's behavior in current and future social situations?*
3. *What are the differences and similarities between the risk-increasing and/or risk-reducing roles network members have on patient's behavior in current and future risk-increasing social situations compared to those in the run-up to the crime?*

To be able to answer the three research questions, semi-structured FSNA questionnaires for the patients and their network members were developed. The FSNA interview topics were extracted from the risk assessment tools, risk management models, and social network theories presented in **Chapter 1**.

The FSNA approach was used to assess the personal networks of forensic psychiatric patients over time at both the group level (**Chapter 3**) and the individual level (**Chapters 4 & 5**).

A comparison between historical and clinical personal networks in a sample of forensic psychiatric inpatients

Even though social network factors are included in many risk assessment tool and risk management models, there has hardly been any examination of the personal networks of forensic psychiatric patients leading up to, at the time of their offense, and during their treatment.

In **Chapter 3**, we explored to what extent the personal networks of personality-disordered forensic psychiatric patients changed over time. Network size, roles, social support, structure and potential risks were investigated. In their historical personal networks (HPNs), patients were in contact with a variety of social network members, especially family members, who also were the most likely victims of the patients' offenses. The patients received social support, although almost half of the social supporters had risk factors (criminal record, psychiatric problems, drug/alcohol use, financial problems

and housing problems). On average, the HPNs consisted for a relatively small part of network members with forensic risk factors.

The small descriptive study showed that - on average - the network sizes decreased in time. The clinical personal networks (CPNs) were composed of fewer family members, friends and other contacts, which also resulted in a lower role diversity. Family members remained the largest subgroup in the CPNs. Most family members in the CPNs were already present in the HPNs. Interestingly, the observed reduction in network size does not seem to have a major impact on the quality of the personal networks. It might sometimes even be considered beneficial, because in some cases important potential stressors were no (longer) part of the patients' CPNs.

A very small portion of the CPNs contained new personal relationships with other inpatients, which is not in line with the theoretical notions of proximity (Allan, 1979; Feld & Carter, 1998), homophily (McPherson, Smith-Lovin, & Cook, 2001) and the Social Breakdown Syndrome (Gruenberg, 1967), where one would expect that the forensic treatment center as local meeting place, is important for new ties.

The network structures were described using the triad census method (Kalish & Robins, 2006). The most common triad in the HPNs and CPNs was the triad in this study defined as most desirable (triad in which two network members without forensic risk factors were connected to each other). The proportion of this triad was – on average - higher in the patients' CPNs compared to their HPNs. The triads, in this study defined as most undesirable (triads with two high risk network members), were the least frequent in both the patients' HPNs and CPNs. The proportion of this high-risk triad was lower in the CPNs. These findings can be considered positive for patients' re-entry chances (Haynie, 2001; Skeem et al., 2009; Spreen, Brand, Ter Horst, & Bogaerts, 2014).

FSNA case studies in forensic psychiatric inpatients

Chapter 4 illustrates the FSNA approach by three case studies of forensic psychiatric inpatients. The analysis and interpretation of the data were focused on similarities and differences between the composition and network structures of the HPNs and CPNs/ Future Personal Network (FPNs). The aim of this comparison was to evaluate whether positive or negative changes could be linked to an increased or decreased risk of recidivism.

In all studies, important network patterns/characteristics were detected. The *first case study* showed a similar absence of supportive attitudes towards medicine compliance

in both the HPN and CPN/FPN. This case study showed that important risk factors would not have been identified, if the team had relied solely on self-report. For example, then it was not detected that the patient overestimated his friendships. Also, two former co-offenders, not mentioned by the patient in his CPN, were detected by using a snowball sampling method. This encountered hidden structure implied increasing risk, because both former friends were still engaged in criminal activities (Akers, 1998; Andrews & Bonta, 1994; Haynie, 2002; McCarthy & Hagan, 1995).

The comparison between HPN and CPN/FPN in the *second case study*, revealed a similar focus on a (intimate) personal relationship, which was considered as risky. Major differences in perceptions were observed between the patient and the treatment team. According to the treatment team, there was an inappropriate personal contact in the period before the committed offenses, characterized by violence. However, in the FSNA-interview, the patient mentioned that he perceived this relationship as positive and appropriate.

The *third case study* showed that the patient's HPN and CPN structures were fragmented. This could be seen as risky due the limited collective social control options (e.g., monitoring his medicine compliance). This study outcome underlined the importance of involving network members in risk management interventions; an adequate risk strategy was composed between patient, two personal network members, and the treatment team; the network members received psychoeducation and became the eyes of the professionals outside the clinical setting. After a while, the informal network members observed risky changes in the patient's behavior which they immediately reported. Without the help of patient's personal network, it was very plausible that patient's non-compliance for his medication would not have been determined in time.

Overall, the additional information collected by the FSNA approach was very useful for risk management decisions and provided information about treatment progress. Similarities and differences in the network roles of network members between the studied time periods were assessed. Interviewing network members yields new essential risk assessment and -management information.

Monitoring risk behaviors by managing social support in the network of a forensic psychiatric patient in mandatory policlinic treatment: a single case analysis

The prospective case-study in **Chapter 5** is focused on the social support function of a patient's personal network during mandatory policlinic treatment. This forensic psy-

chiatric patient was diagnosed with Attention Deficit Hyperactivity Disorder (ADHD). A semi-structured FSNA interview was conducted with the patient and two of his network members at four time points in his treatment process. The patient's social supporters, their structural network positions and their potential risks were pooled and labeled through a triad census method. The study showed that the number of practical and emotional supporters decreased over time in the network of the patient, which also resulted in a decrease of high risk practical and emotional supporters. However, the financial support network remained almost stable. The finding that this patient relied less on his practical and emotional informal supporters during policlinic treatment requires attention, because his informal network will be part of his life after supervision. They may play a significant role in the success of the treatment in the long run (Shapiro & diZegera, 2012).

Discussion

To our knowledge, no earlier research has clearly linked general network theory to a personal-centered network approach in a forensic psychiatric context. This dissertation shows that the FSNA approach advances the clinical practice by building a rich empirical understanding of the risk behaviors of forensic psychiatric patients in their own unique personal social context. This better understanding of the function of personal networks is supportive for personalized risk management, treatment decisions, and may improve future efforts for personal network interventions efforts. The findings pointed out the added value of single case (social network) analysis: the empirical data of our studies showed that the well-established risk factors and protective factors based on population research were not all necessarily applicable in each individual case. This underlines the uniqueness of the social factors involved. It showed the importance of tailormade research and analysis: the FSNA is certainly not a one size fits all model.

Limitations

This research knows several limitations.

A first important limitation is that the validity of the FSNA approach cannot be guaranteed. It is never completely certain that FSNA results with its described negative or positive network influences are the valid reflection of the patients' reality when returning into society. Also, we used various qualitative classification systems to establish the risks involved. These systems remain a necessary simplified representation of the complexity of all compositional and structural variables involved.

A second limitation to consider is that by default, the personal network data about the offense period was collected retrospectively and our research population may not have remembered all relevant network details. It is likely that patients remember situations in ways that do not correspond to the actual situation.

A third limitation is that the studied patients and the selected network members may withhold relevant information to protect themselves or others. These factors may have discouraged the accurate reporting of FSNA data.

A fourth limitation is that the personality disorders of the studied population may have influenced the way they identified significant others and social resources. Earlier research found that people's perceptions of their personal networks are influenced by personality factors (Casciaro, Carley, & Krackhardt, 1999; Clifton, Pilkonson, & McCarty, 2007). However, one should not dismiss a person's report of his personal network members on the account of incorrect information, because it is *their* perception of the relationships that will influence their attitudes and their own behavior (Cohen & Janicky-Deverts, 2009; Mc Carty et al., 2019).

Future research

The forensic personal network approach, proposed in this dissertation, should be considered as a first step in developing a flexible practice-based risk management tool which provides additional information to support treatment decisions. It needs to be further elaborated and professionalized in the forensic psychiatric context as well as related contexts, such as probations services. *This should be a joined effort of forensic clinical practitioners and scientific researchers to establish the best of both worlds.*

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Curriculum vitae

Lydia ter Haar-Pomp was born on May 1, 1982, in Hoogeveen. She obtained a bachelor's degree in social work (2003) at Windesheim University of Applied Sciences and a master's degree in Sociology (2005) at the University of Groningen. Lydia started as Forensic Social Network Analysis (FSNA) researcher at Forensic Psychiatric Center Dr. S. van Mesdag in Groningen. She subsequently worked as researcher and project coordinator at the Expertise Centre for Forensic Psychiatry (EFP) in Utrecht. Her main task was to implement the FSNA approach in Dutch Forensic Psychiatric Centers. Lydia continued her FSNA research within the lectorate research group 'Small n-Designs' at Stenden University of Applied Sciences (current name: NHL Stenden University of Applied Sciences). Lydia's current employer is the Police Academy in Apeldoorn where she works as a research lecturer within the Master of Criminal Investigation.