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The effectiveness of coproduction during the search of a missing person: A comparative case study of the missing of Anne Faber and Ruben and Julian

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Citation

Henst, J. (2021). *The effectiveness of coproduction during the search of a missing person: A comparative case study of the missing of Anne Faber and Ruben and Julian.*

Version: Not Applicable (or Unknown)

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**Universiteit
Leiden**

Institute of Security
and Global Affairs

Master Thesis

Crisis and Security Management

**The effectiveness of coproduction
during the search of a missing person**

*A comparative case study of the missing of Anne Faber and
Ruben and Julian*

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Date: June 6, 2021

Preface

Presented here is the master thesis 'The effectiveness of coproduction during the search of a missing person: a comparative case study of the missing of Anne Faber and Ruben and Julian'. The research for this thesis on the effectiveness of coproduction was conducted through a comparative case analysis. The thesis is written in the context of my graduation from the study of Crisis and Security Management at Leiden University.

Through this way I would like to express my gratitude to my thesis supervisor Dr. Joery Matthys for his expertise and guidance in recent months. I appreciate his active involvement and his ability to provide direction when needed. Although our conversations could only take place through the online world, they were enjoyable and lighthearted. Our enjoyable conversations on the topic of coproduction and the effectiveness of investigations have provided valuable input to my research and have further stimulated my interest in the field.

With this master's thesis, my time as a student comes to an end and therefore, I would like to express my appreciation to my always supportive family and friends who have never failed to show interest in and encouragement for my personal and academic development. Moreover, they have supported me morally during the writing process of this thesis.

Judith Henst

Leiden, June 4, 2021

Abstract

Every year people are reported missing in the Netherlands. In the situation that a missing person is not found quickly, it creates unbearable situations for their close ones. Therefore, it is important to continue to improve the effectiveness of the search for missing persons. With the recognition that citizens need and want to contribute to a safe society, it is important to learn more about the ways in which citizens can be effectively involved. This is especially relevant for the police. One of the ways to involve citizens is the form of coproduction. This research focuses on coproduction between the police and citizens during the time of missing persons cases. A comparative case study is applied. The cases that are compared are those of Ruben and Julian and Anne Faber. Qualitative content analysis is applied to analyse a triangulation of sources with the use of operationalization tables established on coproduction and effectiveness in missing persons cases. The findings of this study shed light on the impact of coproduction during the search for missing persons as it reveals similarities and differences between the two cases.

List of Acronyms

HOps	Head of Investigation (in Dutch: <i>Hoofd Opsporing</i>)
ME	Mobile Unit (in Dutch: <i>Mobiele Eenheid</i>)
NFI	Netherlands Forensic Institute
SGBO	Large Scale and Special Operations Team (in Dutch: <i>Staf Groot-schaligen Bijzonder Optreden</i>).
TGO	Team Large Scale Investigation (in Dutch: <i>Team Groot-schalige Opsporing</i>)

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1. Introduction

In 2010 the headline of the NRC Handelsblad read as follows ‘Crisis looms in investigation’ (*In Dutch: Crisis dreigt in opsporing*), quoting Stoffel Heijman, then chief of police of the Utrecht police force and chairman of the Investigation Board of the Chiefs of Police Council (Wittenberg, 2010). The underlying argument of this impending crisis is the idea that it would eventually be unacceptable for less than one in four registered crimes to be solved. Heijman concluded that the credibility and legitimacy of the police were at stake. To avert this impending crisis, investigative practices would have to be more effective (Wittenberg, 2010; Kop, 2012, p. 15; Salet & Terpstra, 2015, p. 75). The in Heijman's terms impending crisis has turned into an actual crisis of effectiveness: of all the crimes of which the police become aware, and by no means all crimes become known to the police, it solves (too) few of them (Helsloot, Van Reenen & Van Lochem, 2017, p. 6).

To address the identified effectiveness crisis, it is important to broaden the responsibility of investigation: police and justice cannot do it on their own and will have to cooperate with their citizens. The police always depend on the cooperation of citizens to track down perpetrators of crime. Without citizens as witnesses, victims or reporting agents, no investigation is possible. This has never been different, citizen participation in police work is of all times (Reiner, 2010, p. 46). In 1829, founder of the modern democratic policing Robert Peel formulated the following quote as one of the nine guiding principles for the relationship between citizens and the police:

‘Police at all times, should maintain a relationship with the public that gives reality to the historic tradition that the police are the public and the public are the police; the police being only members of the public who are paid to give fulltime attention to duties which are incumbent on every citizen in the interest of community welfare and existence.’ (Peel, 1829, p. 1).

The relationship with the citizen is crucial for the police since its legitimacy depends on it. In addition, Peel's statement presupposes an active citizen who is well able to work on his own security and livability (Gunther Moor et.al., 2011, p. 7). It is significant in this respect that the police registered crime largely on the basis of information from citizens and much less on spontaneous investigative activities of the police. The question of how many cases are actually solved by the information of citizens makes this context even more interesting. Information

from citizens and organizations is valuable and can be better utilized. Combating crime, unsafety and investigation are therefore not only a matter for the police, citizens can also play an active role in this. In order to include citizens and companies more, the police have to invest in the relationship with citizens and needs to coproduce with them (Van der Hoeven, 2011, p. 9; Kop, 2012, p. 31).

If a crime has taken place, the investigation of the suspect is an exclusive task for the police and the public prosecutor (Kop, Van der Wal & Snel, 2012, p. 39). In addition, the police are also involved in the investigation of missing persons (Landelijke Eenheid Politie, 2021a). The police use an extensive questionnaire to estimate the nature and seriousness of the missing. Depending on this, the police register and report the missing person locally, nationally or internationally (Landelijke Eenheid Politie, 2021b). In the event that a missing person is not found quickly, it creates unbearable situations for their close ones. Therefore, it is important to always continue to improve the effectiveness of investigation in the search for missing persons. Given the importance that citizens attach to security, it is a realistic assumption that citizens are willing to cooperate in such investigations (Van Noije, 2011).

Acknowledging the need and willingness of citizens to contribute to a safe society through coproduction, one important research question concerns the effectiveness of coproducing security in public services. This study aims to research the effectiveness of coproduction between the police and citizens in the domain of the search for missing persons. Hereby, one can examine whether it is effective for the police to coproduce with citizens during the search for a missing person.

I. Research objective

As Maguire (2008) notes, citizens are the key factor to success when it comes to effective and efficient police investigations (p. 455). Citizens are an important source of information for the police. Without information from citizens, crimes are significantly less likely to be solved (Rosenbaum et al., 1987, p. v). Citizen participation can be called a crucial factor during the investigative practice. Therefore, the police can and should invest more in building relationships with citizens to increase their willingness to provide information. In the Netherlands, the Dutch police involves citizens in investigations through written press and television programs as *Opsporing Verzocht*, media such as the internet (Facebook, Twitter, *Burgernet* and *Politie.nl*) and telephony (SMS-alert and *Amber Alert*). These platforms are increasingly being used by the police to obtain relevant information from its citizens (Kop,

2011, p. 46; Kop, 2013, p. 18). Nevertheless, all these methods are focused on one-sided communication in which the police ask for information and citizens deliver information.

The way in which citizens are involved in the investigative practice is subject to change. The concern for security has shifted from an exclusive task of the police to a shared responsibility between a large number of public and private parties and citizens' own responsibility (Starmans & Oberijé, 2006, p. 10). The Dutch police is trying to adapt to a society that increasingly wants to help in the investigation process (Kop, 2016, p. 27). Where the classic approach is mainly focused on one-sided communication, there are opportunities in the interactive approach. One of these forms is coproduction. Coproduction consists of a mutually dependent relationship between citizens and the police, in which the police not only ask and collect information, but also keep citizens actively involved in the investigation process by providing feedback, information and regulation (Van Duin, Bakker & Wijkhuijs, 2018, p. 237; Jong & Hogendoorn, 2017, p. 7). Citizen participation in form of coproduction is an expression of the responsibility citizens feel to contribute to a safer society (Kop, 2013, p. 19). Citizens are not only an important source of information, but can also participate in thinking about scenarios that can solve crimes. It goes one step further when citizens not only think along but also actively contribute to create security and safety (Bekkers & Meijer, 2010, p. 107). In addition to informing and advising, citizen participation offers further opportunities for collaboration. It is the police's ambition to give more substance to citizen participation in times of investigation (Kop, 2016, p. 27). This study serves as an exploration of how the police and citizens cooperated during the search for the missing Anne Faber and the brothers Ruben and Julian. It specifically looks at the results that this cooperation has achieved and the opportunities for further development, with the aim of strengthening the effectiveness of the search. Accordingly, in this thesis, the research question is as follows: *How can coproduction between the police and the citizens contribute to the effectiveness of the search for missing persons?*

II. Scientific relevance

With the internet becoming more important the last decades, police institutions have discovered new ways to involve citizens in their investigations. Consequently, investigation nowadays is not exclusively conducted by police officers, but with the help of citizens. This fits the general trend of private actors becoming more involved in security related issues (Feigenbaum & Henig, 1994, pp. 185-186; Spearin, 2010, p. 563). Not only private companies are part of these private actors, also private citizens become more involved in solving cases. Despite all the

interest in coproduction since the early 1970s, a limited number of recent studies have been conducted on the relationship between citizen participation and the effectiveness of investigative practice (Cameron, 1990; Boutellier, 2008; Scholte, 2008; Van Caem, 2009). This research contributes to this by gaining knowledge about citizen participation and the effectiveness of investigation into the search for missing persons in the Netherlands.

More generally, this research provides knowledge about citizen participation in the public domain. The police are not the only organization that cooperates with citizens and organizations to achieve its goals or increase its effectiveness. Also, municipalities and other authorities are more often including citizens. Yet, little evidence is available on whether coproduction can deliver better outcomes when it is applied at scale (Bovaird & Loeffler, 2012, p. 1130). This research can therefore contribute to the existing knowledge on participation in these public services. Although there is research available in the field of citizens participation in security and safety related issues in the Netherlands (Lub, 2016; Mols & Pridemore, 2019), it is of great importance to increase the existing knowledge on whether coproduction can deliver better outcomes in public services.

III. Social relevance

Practically, this study is especially relevant in exploring how coproduction can be helpful for the police in future searches for missing persons. When it comes to coproduction, opinions within the Dutch police are divided (Kop, 2013, p. 18). Scientific research shows the necessity to involve citizens in the investigation process to increase the effectiveness of the police (Rosenbaum et al., 1987, p. v; Meijer, 2014, p. 17). In addition, research indicates that citizens are a success factor for effective and efficient investigation (Maguire, 2008, p. 455; Kop, 2011, p. 45). Yet, how much beneficial coproduction in the investigative practice really is, remains unanswered.

For security reasons, it is important that the effectiveness of the police increases. This study tries to find improvements in the existing investigation process of the police by investigating what effect coproduction between the police and citizens in times of the search for missing persons can have on the investigative practice. Therefore, the practical value of this study lies in examining whether coproduction between the police and citizens can help the police in future investigations. By gaining insight into the value of coproduction, the police will be able to deploy more targeted citizen participation in the future. In this way, the knowledge and expertise gained within society can be used in future missing persons investigations.

Additionally, this research serves a broader social benefit for the society as a whole. Citizen participation is not only applied in police practices, municipalities and other authorities are also increasingly struggling on how to make contact with citizens in such a way that there is meaningful interaction and communication between both parties (Bekkers & Meijer, 2010, p. 9). The recommendations formulated on the basis of this research, taking into account the specific context, can possibly offer new starting points for improving the cooperation between these organizations and citizens.

IV. Research outline

The following chapter is the theoretical framework in which the main themes of this research are explained and elaborated using scientific literature. Since the research question consists of the two components of coproduction and effectiveness, it is necessary to address the existing body of knowledge of both in the theoretical framework. After this chapter, the research design and methodology will be discussed in order to set a framework and to provide justification for this study. This includes the conceptual framework, selection of cases, the limitations and the operationalization. In the fourth chapter, the analysis of the two cases, Anne Faber and the brothers Ruben and Julian, and the outcome of the study is examined. Lastly, the conclusion follows which contains a final answer on the stated research question. Furthermore, the conclusion includes space to addresses limitations of the study and give opportunities for future research.

2. Theoretical Framework

In order to answer the research question, the two components of the research question need to be addressed in the theoretical framework. First, it is important to explore the existing scientific knowledge about the components of coproduction. Therefore, there will be started by exploring the general body of knowledge on citizen participation in the public sector, with an explanation about the ladder of citizen participation and the changing role for citizens in the provision of security. This is followed by laying out the existing knowledge on coproduction. The second component of the research question is effectiveness. The last part of this chapter therefore focuses on the existing knowledge of effectiveness in investigative practices. In doing so, best practices in investigations of missing persons are examined and laid out. By providing this existing knowledge the foundation of the research is set up and gaps in the existing body of knowledge, which provide opportunities for research, are explored.

I. Citizen participation

i. A general explanation

At the end of the last century, thoughts on services in the public domain have shifted. Ostrom (1996) defines this shift as: ‘the process through which inputs used to provide a good or service are contributed by individuals who are not in the same organization’ (Ostrom, 1996, p. 1073). Public services are no longer the result of a partnership between professionals in public organizations, increasingly these services emerge from a collaboration between actors in the public domain and their customers (Bovaird, 2007, p. 846). This shift has led to interactive policymaking in the public sector and to the emerge of news terms as participation and coproduction. As a result, a dual role for the citizen in public service is created. Normann (1984) distinguishes between the situation where professionals work for the citizen and the situation where the citizen is part of the service being provided. In the first situation the citizen is seen as a costumer using services and in the second situation the citizen is seen as a partner in the practices of public services, the citizen becomes a producer of the service itself (Meijer, 2011, p. 599). In this research, citizen participation in investigative practice of search for missing persons builds substantively on the idea of citizen participation in the public sector (Normann, 1984; Ostrom, 1996; Bovaird, 2007). This takes into account the specific context that is the focus of this research. Although this boundary on citizen participation makes the subject of this research less general, the phenomenon of citizen participation remains wide-ranging.

Citizen participation can be used in various sectors and with various purposes. Citizen participation involves citizens participating in some way in the formation and/or implementation of policy (van Caem, 2008, p. 19) and is used in many different policy areas and for many different purposes (Cornelissens & Ferwerda, 2010, p.17). One of this policy areas is that of security and safety. According to Boutellier (2008), security issues are ideally suited for citizen participation because of two reasons. First is the shared experience of police and citizens to security issues. Second, both parties are affected by these security issues (Boutellier, 2008, p. 13). Within the academic literature many definitions on citizen participation within the policy area of security are given, examples are Brinkhoff (2008), Brans, Maesschalck, Gelders & Colsoul (2008), van Caem (2008) and Bervoets, van Ham & Ferwerda (2016). Research by Van der Land, van Stokkum and Boutellier (2014) into the various forms of citizen participation in the social security domain in the Netherlands, formulated citizen participation as the active involvement of citizens in policymaking and realization of collective interests in the field of social security (p. 5). The term participation presupposes some degree of collaboration between stakeholders and the implementing organizations, sharing knowledge and input. The concern for security and safety is increasingly less regarded as the sole responsibility of the police. To an increasing extent, the police are asked to operate in cooperative networks of different organizations and partners. Citizens are increasingly participating in these partnerships (Terpstra and Kouwenhoven, 2004, p. 25). What this more active role of the citizen means for the level of participation is described by means of the concept of the ladder of citizen participation.

ii. Ladder of citizen participation

Arnstein (1969) was one of the first to formulate the concept of participation in terms of influence and power and illustrated it with the ladder of citizen participation (p. 217). Arnstein is considered as the founder of the participation ladder. The police use this ladder of citizen participation to represent projects in which citizens are actively involved. In Arnstein's ladder of citizen participation eight steps are distinguished. The degree of influence and power of the citizen increases the higher the citizen moves up the ladder (Arnstein, 1969, p. 217). Arnstein's ladder of citizen participation has been used by many as a starting point to develop additional or alternative ladders (Veldboer, 1996; Edwards & De Groot, 1997; Pröpper & Steenbeek, 1998; Geul, 1999). Edelenbos and Monnikhof (2001) took Arnstein's ladder of citizen participation as a starting point in designing a Dutch participation ladder in which measures of participation can be classified on five levels (pp. 242-243). The levels informing, consulting,

advising, co-producing and co-deciding are distinguished. The level of citizen participation increases the higher one moves up the ladder. Edelenbos and Monnikhof assume that there is a difference in the degree to which citizens or other stakeholders can influence the final outcome. The higher citizens participate on the participation ladder, the more power and influence citizens have on the outcome (Edelenbos & Monnikhof, 2001, p. 242). The levels provide different degrees of interactivity. In relation between the police and citizens, a higher step on the ladder means a more of an equal cooperation between citizens and the police.

On the first step, informing, there is the least participation. To a large extent, the organization set the agenda for decision-making themselves and keep those involved informed. The organization does not make use of the input of those involved. There is hardly any citizen participation and the relationship between the parties is particularly one-sided in nature (Edelenbos & Monnikhof, 2001, pp. 242-243). Applied to the police organization, informing involves one-sided communication from the police towards the citizen, for example, news reports with warnings about a malicious software (Kop, 2016, p. 28).

On the second step, consulting, the organization largely sets the agenda itself, but views stakeholders as dialogue partners in the development of ideas and processes. The information can be an inspiration for policy, but the organization in this situation is not obliged to use third party input as a supplement to their own strategy (Edelenbos & Monnikhof, 2001, pp. 242-243). Applied to the police, questions are asked from the police to citizens to provide information. Examples are the use of social media channels from the police, *Amber Alert*, *Burgernet* or *Opsporing Verzocht*. The police are not required to use the input given by citizens (Kop, 2016, p. 28).

On the third step, advising, the organization basically sets the agenda, but it gives stakeholders the opportunity to suggest problems and formulate solutions. The suggested ideas play a full role in the development of the policy. The value of citizen's input is equal to that of the organization. However, the organization can make reasoned changes from these ideas in the final decision-making (Edelenbos & Monnikhof, 2001, pp. 242-243). Applied to the police organization, the input of citizens is equal to that of the police. An example is the involvement of citizens as experts. The police organization thereby commits itself to the developed ideas of the experts but can still make reasoned changes to this (Kop, 2016, p. 28).

On the fourth step, coproducing, the organization and the citizen share a perception on a problem, after which the organization and the citizens can jointly search for solutions. The organization commits to these solutions with respect to final decision-making. It is the process by which citizens (co)set the agenda in a particular policy area and, in collaboration, outline

problems and devise solutions that will ultimately be decided by the organization. The level of coproducing also includes informing, consulting and advising (Edelenbos & Monnikhof, 2001, pp. 242-243). Applied to the police organization, co-producing involves a shared understanding of the problem between the police organization and the citizen, after which they can jointly search for solutions. For example, in this process the police share information from an investigation with citizens so that the citizens can contribute their thoughts on the specific case (Kop, 2016, p. 28).

At the highest level of participation, co-decision, the organization leaves the development of ideas and decision making to the stakeholders, with the organization taking on an advisory role (Edelenbos & Monnikhof, 2001, pp. 242-243). Applied to the police organization, here the police organization leaves the development of ideas and decision making to stakeholders, with the organization playing only an advisory role. Along many ways, attempts are made to stop crime; in addition to the police and citizens, more and more parties such as municipalities, aid organizations, businesses and journalists are increasingly active in the fight against crime. The bottom line is that the police participate as one of the parties (Kop, 2016, pp. 28-29).

iii. A changing role for citizens in the provision of security

The change in thinking about public services has caused the traditional task of the police to change. Whereas the provision of security is traditionally a police task, citizens have been given an increasing role in recent decades. One of the service areas for which citizen involvement has been extensively documented is that of public security (Percy, 1978; Rosentraub & Harlow, 1980, 1983; Clotfelter, 1977; Nehnevajsa, 1977, Lavrakas & Lewis, 1979; Rosentraub & Sharp, 1981; Oakerson & Bell, 1983; Percy, 1984, pp. 432-433). It has always been the case that citizens regularly contribute to the investigation practice (Reiner, 2010, p. 46). Examples of this are providing information to the police, reporting suspicious situations and making a statement as a witness (Percy, 1984, p. 433; Newburn, Williamson & Wright, 2007, p. 696; Bleichrodt, 2010, p. 1). Within policing, there can also be found a dual role for citizens to increase security in society. On the one hand, the citizen as a witness of a crime can be seen as a customer of the police since the police provide a service to the citizen by taking a witness statement. On the other hand, the police need the citizen as a partner to increase security within society. To this end, the police can ask citizens to be alert to suspicious situations in their surroundings. Citizens can thus contribute to a safer society by, for example, reporting suspicious situations. This form of partnership also applies to the participation of citizens in the investigative practice.

Participation and coproduction in investigative practice build on the idea of interactive policymaking in the public sector (Van der Hoeven, 2011, p. 17).

There are several causes for the increasing involvement of citizens in providing security, which is partly the result of policy choices by the government, partly of digital developments and partly of private initiatives. First of all, the increasing involvement of citizens in providing security in recent decades fits within what Garland (2001) calls the responsabilization strategy (Garland, 2001, p. 124). The returning message of this approach is that the government is not solely responsible and accountable for preventing and controlling crime in society. Community responsibility comes from the realization that all of society has a stake in community security. Garland (2001) calls this the community as the solution of community policing. In this strategy, citizens, individually or as a group, and institutions in the public and private sector, are called upon to take responsibility in creating a safe environment (Garland, 2001; Boutellier, 2004). The political ambitions of the Dutch government for a more active and responsible participation of citizens in society, as declared in the Charter Responsible Citizenship (*in Dutch: Handvest Verantwoordelijk Burgerschap*, Ministerie van Binnenlandse Zaken en Koninkrijkrelaties, 2009, p. 2), fit within the responsabilization strategy of Garland. The Dutch government expects citizens to take responsibility and emphasizes on concepts like participation, responsibility, good citizenship, citizen courage and self-management is growing (Veldheer et al. 2012, pp. 189–194; Van Eijk et al., 2017, p. 326). It fits within the thinking that citizens are active citizens who are well able to work on their own security and livability (Gunther Moor et.al., 2011, 7). According to the Dutch government, the police and justice cannot reduce crime without the help from society, and after all, issues of crime and security concern the whole of society. Therefore, society as a whole is held responsible for the livability and security: it is a shared responsibility of citizens and the police (Terpstra, 2008, p. 214). This involves the use of a variety of projects in the public and private domain, ranging from national publicity campaigns to neighborhood prevention in local neighborhoods (Terpstra & Kouwenhoven, 2004, p. 39).

In response to rising crime rates and declining resolution rates, the Dutch police introduced a new approach at the end of the last century called neighborhood-oriented policy (*in Dutch: gebiedsgebonden politiewerk*), focused on working close to and together with the citizens (Stuive & Deelman, 2010, p. 24). This area-specific approach is still one of the basic principles used by the Dutch police. The purpose is to stay in touch with citizens at an early stage of crime and limit crises. With this approach, the relationship between the police and the citizen has acquired a new dimension. Citizens are increasingly given the opportunity to provide

information and advice to the police. Due to this social development, the role of citizens in investigative practice has been subject to change in recent years. Involving private citizens in the investigation is in line with the emphasis on the responsibility of citizens in controlling crime (De Roos, 2000, p. 314, Bleichrodt, 2010, p. 2).

The digitalization of society has also significantly changed the position of the citizen in relation to the government and the police (Cornelissens & Ferwerda, 2010, pp. 17-19). The emergence of new means of communication has brought about a shift in public information and the manner of reporting in the media (Cornelissens & Ferwerda, 2010, p. 17; Meijer, 2014, p. 18; Roberts & Marchais, 2018, pp. 9-10). Citizens can play a much more active and larger role in the reporting on the internet. Platforms like Twitter and Facebook make this possible. Various initiatives, as *Burgernet* and *Amber Alert*, have been developed to involve citizens in police investigative activities and new ideas are still emerging. The new forms of communication offered by the internet enables new possibilities in cooperation between police and citizens (Leadbeater & Cottam, 2007, p. 25; Frissen et.al., 2008, p. 5; Crump, 2011, p. 23).

In addition to these governmental and digital developments, there also seems to be a change in the citizens themselves that is reflected in the relationship with public organizations. Due to individualization the traditional social structures are no longer self-evident, and individuals are increasingly dependent on themselves (Van der Hoeven, 2011, p. 19). As a result, citizens have become more vocal and demanding, not only to the police but also to other authority figures which ones were part of the stable pillars of society (Loader & Mulcahy, 2003, pp. 112-113; Noordegraaf, 2008, p. 57). Citizens have raised their expectations about their power to influence various government services (Verschuere, Brandsen & Pestoff, 2012, p. 1097; Tuurnas, 2020, p. 139). This changing attitude is reflected in the position of citizens towards the public sector and the police. People do not hesitate to enter into discussion with the government or from taking action themselves (Cornelissens & Ferwerda, 2010, p. 21).

The mentioned changes regarding how the government and the police view the role of citizens, as well as digitalization and individualization affect police practice and offer new opportunities. Bekkers and Meijer (2010) observe new opportunities for the development of participation going a step further than simply informing (p. 10). This is primarily a matter of communication. Intelligence present in numerous places is linked to each other. The goal is not only to unlock this intelligence, but especially to allow new intelligence to emerge (Bekkers & Meijer, 2010, p. 10-11). In the investigation practice, this can lead to new insights and leads in investigations. The citizen is no longer just a customer, but also participates in the service of security provision.

II. Coproduction

Increasing security in society and increasing solving cases can be a reason to move up a step on the participation ladder (Kop, 2016, p. 29). Actively involving citizens in investigations to increase efficiency are new principles used by the Dutch police (Kop, Van der Wal, & Snel, 2012, p. 5). Without the input from citizens, the police would not be able to arrest criminals and find missing persons (Ostrom, 1978; Percy, 1978; Brudney & England, 1983; Percy, 1987; Meijer, 2014, p. 17). The renewed attention to the idea of coproducing security can be understood within the previously mentioned responsabilization strategy (Garland, 2001). Coproduction is an important element in giving citizens more responsibilities for creating security (Meijer, 2014, p. 18). Behind the principle of coproduction lies the idea that citizens are not passive objects of security policies, but citizens are rather active coproducer of these policies (Meijer, 2014, p. 17). The idea of coproduction of security has a long history and since the seventies of last century multiple articles have been published (Ostrom, 1978, 1996; Parks et al., 1981; Whitaker, 1980). Those articles are considered as the starting point of coproduction literature and contain explanations about community-police collaboration. Other relevant academic literature on coproduction was created during the resurgence of the concept of coproduction (Brandsen & Pestoff, 2006; Bovaird, 2007; Alford, 2009; Paarlberg & Gen, 2009; Meijer, 2011).

In the literature there are different definitions given of coproduction. Ostrom (1996) says: "By coproduction, I mean the process through which inputs used to produce a good or service are contributed by individuals who are not 'in' the same organization (...) Coproduction implies that citizens can play an active role in producing public goods and services of consequence to them" (Ostrom, 1996, p. 1073). Tops (1999) designates coproduction as a collective term of allowing citizens, stakeholders, interested parties to coproduce in the making of decisions (p. 201). The literature shows that coproduction is a production in which a result is achieved through the cooperation of different parties. Coproduction is seen as a collaboration in which policy parties and citizens work together on a particular subject, in this research finding a lost person, in consultation to solve this issue. Within this research, the definition of Bekkers (2007) is used. Bekkers formulates coproduction as a process of common perception aimed at developing a shared policy practice in a network of mutually dependent actors. The characteristic feature of coproduction of policy is that (mutually) dependent parties have a common definition of the problem and approaches, based on a process of mutual perception (which takes shape through consultation, exchange, and negotiation), thereby creating a shared policy practice (Bekkers, 2007, p. 208). The relationship between the police and the citizens is

mutually dependent, in which the police not only ask and collect information, but also keep citizens actively involved in the investigation process by provide, inform and regulate feedback (Van Duin, Bakker & Wijkhuijs, 2018, p. 237; Jong & Hogendoorn, 2017, p. 7). Coproducing involves a shared understanding of the problem between the police organization and the citizen, after which they can jointly search for solutions. This may involve active participation of citizens, which corresponds to the fourth step of the ladder of citizen participation of Edelenbos and Monnikhof discussed earlier.

In coproducing security, the police involve and depend on citizens to obtain information from citizens about suspects, victims, or other circumstances at a crime scene, or for example, as relevant in this study, information about missing persons (Newburn, Williamson & Wright, 2007, p. 696). There are two different situations in which citizens can provide information: the citizen can assist the police in their investigative work (Waegel, 1981) or the citizen can assist the police in their patrol work (Klinger, 1997). These forms of coproduction differ in terms of time, place and information richness (Meijer, 2014, p. 19). The coproduction of investigative policing, such as solving a murder, is not strictly dependent on time and place, but generally requires rich information about various aspects of the crime and the suspects. In contrast, the coproduction of patrolling police work, such as helping the police catch thieves who have just broken into a store and are escaping, requires citizens to be in the right place and at the right time to provide information. The information is generally not rich, minimal information about the whereabouts of the suspects of the crime suffices (Meijer, 2014, p. 19). When resolving a case of a missing person, the information richness is most important. The case cannot be solved without information which can possibly lead to the localization of the lost person (Heth & Cornell, 2006, p. 269).

i. The characteristics of coproduction

Using this definition of coproduction, three important components can be distinguished. A fourth component can be added, namely the presence of achieving mutual benefit. Therefore, a total of four components needs to be present to define the participation as coproduction and to give the process of coproduction the largest chance of success. These four components are mutual dependence, common perception, shared practice, and mutual benefit, which will be further elaborated in the following section.

Mutual dependence

The first component of coproduction is the presence of mutual dependence. Complex issues require a combination of different resources distributed among different actors (Koppenjan & Klijn, 2004, p. 47). Organizations aim to achieve their own goals and serve their interests in doing so, yet at the same time the organization is aware that in order to achieve its goals, it is dependent on other actors in, for example, resources, support and legitimacy. If each actor has its own specific resources that may be necessary to achieve a solution to the issue, incentives for cooperation arise (Jeurissen & Vriesde, 2012, p. 52). Mutual dependence is therefore a needed element to be present to define the interaction between involved actors as coproduction. Involved actors are those with specific resources, support and/or legitimacy needed to achieve a solution to an issue. Trust is often a precondition for the ability of parties to actually see and recognize the mutual dependencies that bind them (Bekkers 2007, p. 217). An open climate of information exchange about problem perceptions, solutions and interests promotes the likelihood of this mutual trust. None of the parties should hold absolute power in a network of coproduction. Decision-making is characterized by a certain relativization of hierarchy (Tops, 1999). There should therefore be no question of one actor imposing or being able to impose its will on others. Actors should be equal to each other in the cooperation. Although none of the actors has a decisive role in the process a priori, there may be differences in influence and power due to the formal position of power (Jeurissen & Vriesde, 2012, p. 52).

Common perception

The second component of coproduction is a common perception. Different actors may interpret and define problems differently, therefore it is important to connect the language, symbolism, perceptions and perspectives of those involved (Tops, 1996). In a process of coproduction where a joint effort is made to solve a problem, a common perception of the problem between the stakeholders needs to be present. A common perception is required in coproduction does not imply that all parties must agree on all fronts. Especially at the beginning of the process, it is important that all different actors involved can make their views known for a common perception (Tops, 1999). Without the opportunity to reach a common perception at the beginning of the process there is an opportunity that the actors involved will no longer agree with the project during the process of the project because, in their view, there has been a deviation from the original problem definition (Jeurissen & Vriesde, 2012, pp. 52-53).

Shared practice

The third component of coproduction is the development of a shared practice. The actors involved act jointly, meaning that these actors set initiatives or developments in motion together.

The actors are involved in initiating joint initiatives or developments, both passively and actively (Tops, 1999). By passive action is meant that a party does not obstruct the practices that needs to be done. Actors may be able to block a process when they are in possession of an important and irreplaceable source of power (Koppenjan & Klijn, 2004, p. 47; Jeurissen & Vriesde, 2012, p. 53). A shared practice is about an agreement on the tasks to be performed in practice. In order to solve the issue and to achieve the goals, the actors involved jointly agree on the joint initiatives that will be undertaken. Each actor knows and agrees with what each role in these actions will be.

Mutual benefit

The last component of coproduction is to have mutual benefit. In essence, each actor is focused on their own benefit and coproduction will only be viable if all actors see that it would result in their aspired benefit. While actors may be dependent on each other to achieve certain goals, the actors must also see the value of working together. Collaboration can be rewarding and beneficial in many cases. The parties will not simply agree to cooperate without achieving clear benefits through the cooperation. It is therefore important that a win-win situation is present. According to Koppenjan & Klijn (2004), a win-win situation exists when the outcomes bring about an improvement in the existing situation of all parties (Koppenjan & Klijn, 2004, p. 126). Coproduction is an open process which makes the achievement of a win-win situation more present than in a closed process, which is more characterized with a zero-sum situation where the benefit of one party is at the expense of the benefit of the other party (Bekkers, 1996). De Bruijn and Ten Heuvelhof (2004) do not speak of a zero-sum situation but of a win-lose situation in which the losers will try to avoid its loss (2004, p. 65). In order to turn such a situation into one in which mutual benefit can be achieved, a win-win situation, the actors will have to be open to each other's interests without losing sight of self-interest. This can be done through combining targets, compensation, re-framing or coincidence (Bekkers, 2007; Jeurissen & Vriesde, 2012, p. 53).

III. Effectiveness of investigations of missing persons

Now that the existing knowledge on coproduction is elaborated, the second component, effectiveness of the investigation practices of missing persons, will be explained. In the

Netherlands, when a crime is suspected, the police and judiciary have the possibility to apply many special investigative competences. Without suspicion of a crime, only a very limited number of powers remain. With the cooperation of the Ministry of Justice and Security a few additional powers can be used in the event of acute and imminent danger to life. In many cases of missing persons, the facts and circumstances do not immediately result in a suspicion of a crime. Nor is there any question of an acute and imminent danger to life in the case of many missing persons. As a result, in the majority of cases of missing persons, even when it is urgent, there are hardly any powers for the police to act on (Hofman et al., 2011, p. 8). Yet, if there is a suspicion of criminality based on facts and circumstances, the investigation into a search for a missing person is a fitting task of the police (Ministerie van Veiligheid en Justitie, 2014, p. 2; Kop, van der Wal & Snel, 2012, p. 39). Several factors are important in an effective missing person investigation. Literature shows that these can be categorized into information gathering and estimation, an investigative approach to the missing person case, the commitment to the search, communication about the case and finally the tactical and forensic detection. These six factors about effective missing person detection are elaborated in the following sections.

Information gathering and estimation

The success of investigations often depends on the quality and quantity of information obtained in the early stages after the crime (Chatterton, 1976; Sanders, 1977; Greenwood et al., 1977; Bottomley & Coleman, 1981, in: Van Baardewijk & Hoogenboom, 2011, p. 107), this also applies to investigation into missing persons (Hedges & Shalev-Greene, 2016; Gabbert et al., 2020, p. 1). Reliable information can not only be helpful in the search of the missing person, but can also be vital in a later stage if the case turns into a criminal investigation related to, for example, kidnapping or even murder (Gabbert et al., 2020, p. 1). Inherently, when a person goes missing, it is unclear what happened to the missing person and this complicates the search (Fyfe, Stevenson & Woolnough, 2015, p. 409). Several scenarios are possible in a missing person case. There may be a voluntary disappearance, suicide or a crime. The assessment and categorization of a report of a missing person is decisive for the further steps that are taken in the investigation. Estimating the urgency of a missing person is therefore crucial since the rest of the investigation is based on this (Fyfe, Stevenson & Woolnough, 2015, p. 412).

In order to estimate the urgency of a missing person's case, it is important to gather as much information as possible. The risk of well-being during a missing should be assessed, which is challenging since only the missing person knows what has happened (Hedges, 2017, p. 22; Greene, 2020, p. 26). Currently, the police in the Netherlands distinguish two categories

of missing persons: urgent missing and other missing (Van Leiden & Hardeman, 2015a, p. 29). An urgent missing person case occurs if there are substantial indications that (1) the missing person is in danger because the missing person is in complete contrast to normal behavior, (2) there are indications that the missing person is a victim of a crime, (3) there are substantial indications that around the missing person there is a danger to the safety of others or society, (4) or if a person is missing for more than three weeks without anything being heard from him or her or without it becoming clear that there is a voluntary departure (Schouten et al., 2016). A missing person is scaled under non-urgent category if (1) there are no direct indications of threat, danger or risk or (2) there is a reason for a deliberate departure (Schouten et al., 2016). The missing person's reporter is an important source of information and plays a major role in estimating the urgency of a missing person's report (Van Leiden & Hardeman, 2015a, p. 126; Gabbert et al., 2020, p. 3). The level of concern of the reporter is an important factor in determining this urgency. When registering the report, the right questions need to be asked and all information must be registered properly (Van Leiden & Hardeman, 2015a, p. 127). Simple questions as, what does the missing person look like, what is he or she wearing, what does he or she have with them, and did he or she prepare for leaving, can be of cruciality in the further progress and resolution of the case (Gabbert et al., 2020, p. 3). In addition to the importance of paying attention to the reporter, it is also important to look at who does not report the missing. It is known that if someone is directly involved in the missing person, he or she usually does not make the report (directly), but instead this is done by someone else (Van Leiden & Hardeman, 2015a, p. 126).

In addition to the information gained through the person who reported the missing, it is important to gather more background information and information about the missing person's life. The people close to the missing person are a key source for this information (Gabbert et al., 2020, p. 3; Greene, 2020, p. 29). The police need to anticipate that those left behind, whether consciously or unconsciously, will not immediately tell the whole truth and a re-interviewing can be needed (Fyfe, Stevenson & Woolnough, 2015, p. 416; Van Leiden & Hardeman, 2015a, p. 127). It is therefore important to also include other witnesses such as colleagues and neighbors to keep actively recounting information from the people close to the missing person (Van Leiden & Hardeman, 2015a, p. 129). Research by Van Leiden and Hardeman (2015a) shows that it regularly occurs that the perpetrator is in the social environment of the victim (p. 129). Conducting an extensive (social) background investigation can therefore expose a possible relationship between the missing person and a possible perpetrator.

In order to reach information to proceed the investigation, witnesses should be interviewed extensively as soon as possible. This should include continued questioning because at the beginning of an investigation it is still unclear which elements may be important in the rest of the investigation (Van Leiden & Hardeman, 2015a, p. 147). The statements of witnesses need to be verified in order to confirm or eliminate certain ways of thinking in the investigation and to find any contradictions in statements (Van Leiden & Hardeman, 2015a, pp. 148-149).

Information about the location where a missing person was last seen may reveal evidence or another lead. The research of Van Leiden & Hardeman (2015a) shows that the location where the missing person was last seen should be considered as a possible crime scene (p. 130). Additionally, when searching the belongings of the missing person, it is important to be alert for leads and to have them seized. The police officers involved in the search of the belongings should have knowledge of the case in order to know what information may be of interest (Van Leiden & Hardeman, 2015a, p. 132).

An investigative approach to the case

As stated earlier, in the case of a missing person, the question of whether there is a crime arises. Since there is a different starting point than in other types of cases, investigating into a missing person is different. In the case of a missing person, the starting information that is normally released at a crime scene must be sought. Until clear leads have been found for a crime, the question remains what the appropriate police response is (Biehal et al., 2003, p. 5). This while the first 24 hour of a missing person case are the most important (Quinet, 2007, p. 324; NPIA, 2012, p. 5; Welch, 2012, p. 49; Nationale Ombudsman, 2013, p. 5; Van Leiden & Hardeman, 2015a, p. 134). To be able to use investigative tools, it must be made clear that something serious has happened to the missing person. The prosecutor must be convinced since the prosecutor gives permission to use certain investigative tools. With the knowledge that the start of an investigation is important (Cameron, 1990, pp. 487-490), the approach of a missing person investigation is important since it partly determines what is or can be undertaken. For this, the police need to look at the case from an investigative perspective (Van Leiden & Hardeman, 2015a, p. 133). As in the United Kingdom, the principle is applied: 'When in doubt, think murder'. By taking different scenarios, such as a crime, into account, leads are created for the deployment for the means of investigation (Van Leiden & Hardeman, 2015a, p. 134).

Commitment to the search

An important part of the investigation is that an investigation must be started immediately after a report is made. The effectiveness of the investigation increases as the speed of response to a crime increases (Cameron, 1990, pp. 487-490). The longer one waits to make a report or start an investigation, the more the investigation team starts lagging behind (Van Leiden & Hardeman, 2015a, p. 137). Once an investigation is started, short information lines between the police are important so that questions can easily be asked when in doubt and information can more easily reach those who need it (Van Leiden & Hardeman, 2015a, p. 139).

A missing persons case should go from the police officers to criminal investigation department in time. If a case is not scaled up in a timely manner, police officers are left with too many cases. Choices then have to be made between tasks such as hearing witnesses and making tactical decisions, for example, and important information may be missed (Van Leiden & Hardeman, 2015a, pp. 139-140). This also emphasizes the need for investigative teams to have sufficient capacity and quality present to investigate the cases of missing persons. If certain knowledge is not available within a team, it may be rewarding to include experts in the detection of a missing person (Van Leiden & Hardeman, 2015a, p. 141).

Communication about the case

To find a missing person, it is helpful to involve as many eyes and ears as possible in the search. After all, the focus of the investigation is to find the missing person. Communication about the missing person is therefore crucial for success, both towards citizens and within the police organization. The active and early involvement of the media in a missing persons case is a success factor within the investigation practice since recovering the victim may depend on help from the public (Van Leiden & Hardeman 2015a, p. 142; Jeanis & Powers, 2017, p. 667). By using the media, tips can come in with new leads for further investigation or new scenarios come to the surface. Not only through the media can citizens be approached, by creatively drawing attention of citizens, opportunities can be created whereby citizens become more alert to the missing person (Van Leiden & Hardeman, 2015a, p. 143).

A lot of information can be released by communicating about a missing person. The number of tips that are received by the police as a result of sharing information about a missing person differs per case. The downside of media attention and the active involvement of citizens in the investigation is that the pressure on an investigation team increases. If the media and citizens are involved in a missing persons case, the police should be prepared for large information flows to arise and provision for this should be organized (Van Leiden & Hardeman, 2015a, p. 143). The police should also take into account that there can be unreliable informants

among them that will cost the police a lot of (valuable) time if they are taken seriously (Van Leiden & Hardeman, 2015a, p. 144).

The people close to the missing person should be kept well informed by the police (Greene, 2020, p. 54). This is first of all to ensure that those close to the missing person are not confronted with information through the media. The police must take into account that these people are likely going through a stressful and difficult time (Wayland, 2007, p. 5; Holmes, 2008, pp. 17-18; Lenferink, 2017, p. 287; Gabbert et al., 2020, p. 1). Second, it is important to keep the people left behind informed of the steps the police are taking, so that the police themselves remain in control and the people left behind do not go out and investigate on their own. However, most families of missing persons will conduct their own search in addition to those of the police and non-police (Wayland, 2007, p. 7). To limit this, the police should keep them informed. Such actions can disrupt the police investigation (Van Leiden & Hardeman, 2015a, p. 145).

In addition to the importance of communication towards the citizens and the people left behind, the police should also communicate within the police organization itself to increase the effectiveness of the investigation. In this way, the team creates more eyes and ears and it is possible to get help within the police organization where it is needed (Van Leiden & Hardeman, 2015a, p. 146, Greene, 2020, p. 29).

Tactical detection

Tactical detection in missing persons cases is aimed at finding out the whereabouts and the reason for the disappearance. This includes devising scenarios and strategies. To increase the success of finding the missing person, all scenarios should be kept open, no matter how unlikely a scenario is (Van Leiden & Hardeman, 2015a, p. 147).

Research by Van Leiden and Hardeman (2015a) shows that in the case of a disappearance, a means of transportation was often used (p. 149). Research into a possible means of transportation by which the missing person disappeared is therefore important. Based on scientific knowledge, it is known that in the event of a murder, missing persons are buried within a relatively small radius around the location of the disappearance (Van Leiden & Hardeman, 2015a, p. 150). Finding a vehicle with which the missing person was last seen in can be a breakthrough in the investigation because finding the vehicle provides insight into the missing person's action radius and thus gives direction to the investigation area (Greene & Pakes, 2012, p. 7; Van Leiden & Hardeman, 2015a, p. 149).

If a suspect is in the picture but the missing person has not yet been found, there is a chance to find out the location of the missing person through the suspect (Van Leiden & Hardeman, 2015a, p. 151). The weaknesses of the suspect will have to be searched and used in order to get information on where to find the missing person. This has been a success factor in several missing person cases.

Forensic detection

In addition to tactical detection, forensic detection is another way to form a picture of what happened to the missing person. Within forensic detection, traces are sought that can tell the story of the missing person. This can consist of technical traces and biological traces (Fyfe, Stevenson & Woolnough, 2015, p. 417; Van Leiden & Hardeman, 2015a, p 152).

The technical possibilities have continued to increase in recent years. The added value of these possibilities should be utilized in an investigation (Van Leiden & Hardeman, 2015a, p 152). The DNA of the missing person should be secured. This in order to be able to determine if any traces that are found belong to the missing person and to be able to identify a DNA profile of the missing person in the DNA database (Van Leiden & Hardeman, 2015a, p. 153). In addition to these biological traces, technical and digital traces can also tell something. Examples are public transport travel data, camera footage and voicemail messages. This data needs to be secured as soon as possible after a missing is reported because this data is no longer available after some time (Van Leiden & Hardeman, 2015a, p. 154). The same applies to volatile goods such as garbage (Van Leiden & Hardeman, 2015a, p. 154).

Characteristic of cases in which someone is missing, is that many searches are set up. However, a search only makes sense if it is well prepared and all necessary resources are available to the team (Van Leiden & Hardeman, 2015a, p. 155). Police dogs can be a logical step in the search for a trace of the missing person. In order for this search to be as effective as possible, the short period of time in which these dogs can search effectively should be taken into account as well as that the search area should not be too large (Van Leiden & Hardeman, 2015a, p. 155).

3. Method

This chapter contains the methodological part of the research. First of all, the conceptual framework will be set out. Hereafter, the research design of the study is addressed, which exist of a comparative case study. After this, the case selection is further explained and justified, followed by a section in which the data collection will be discussed. Hereafter, the operationalization is set out in order to create measurements that are consistent with the expectations derived from the theoretical framework and that can be used for the analysis in the chapter of analysis. At last, the generalization and validity of the research are addressed.

I. Conceptual framework

This research is searching for an answer on the research question: how can coproduction between the police and the citizens contribute to the effectiveness of the search for missing persons? The goal of the study is to investigate the effectiveness of coproduction during the investigation into a missing person case. This research will be based upon a comparative case study by analyzing the case of the missing of Anne Faber in 2017 and the case of the missing of the brothers Ruben and Julian in 2013. In order to measure the extent to which coproduction contributes to the investigation of a missing person, the first step is to indicate coproduction. Coproduction is the independent variable. The four indicators for coproduction are provided in the theoretical framework and will be operationalized below in the section data analysis. Next the effectiveness of the investigation by using the six factors of effective missing person investigation as elaborated in the theoretical framework is examined. These six factors are as well operationalized below as well in the section data analysis.

In order to compare the two cases (the missing of Anne Faber and the missing of Ruben and Julian), the same conceptual framework will be used on both in order to compare any similarities and/or differences and to determine whether coproduction contributes to the effectiveness of the search for missing persons.

II. Choice of methodology

The research design for this research is a comparative case study, since it will examine coproduction in an empirical context by two different cases and compare these with each other. The key characteristic of a case study is to provide a detailed exploration and an in-depth analysis on a phenomenon within its real-life context (Robson, 1993, p. 146). Yin has explained three conditions for a case study method: (1) the main research question is a ‘how’ or ‘why’

question, (2) the study is focused on a contemporary set of events and (3) the researcher has little or no control over the behavioural events (Yin, 2018, pp. 13-14). A case study would be the preferred research method compared to other research methods if the situation meets these three conditions (Yin, 2018, p. 13). Regarding these three conditions, a case study method is the perfect fit for this research in which coproduction is explored by a 'how' question, the focus of the research is the contemporary use of coproduction by police and no control is possible over the behavioural events of the search for missing persons. A case study allows for the exploration of behaviour, as detailed observations can be made that provide a holistic view of the process (Meyer, 2001, p. 330). Therefore, this qualitative research gives the possibility to get a holistic and detailed understanding of coproduction as a phenomenon in its real-life context and to examine coproduction from a security perspective. A quantitative research method would not fit the in-depth research approach.

When conducting research using a case study, it is important to make choices about the design, such as the selection of cases, the used time frame, and the procedure of data collection (Meyer, 2001, p. 332). There can be chosen to include one case or multiple cases in the research, in which choosing for only one single case give limitations in generalizability and give biases in the information processing (Meyer, 2001, p. 332). A comparative case study allows to examine the similarities and differences between cases.

A methodology of cross-case analysis enables this research to compare the similarities and differences in the two cases with the application of coproduction as the unit of analysis (Yin, 1981, p. 108). By examining two separate events in the area of missing persons, this study aims to provide an in-depth understanding of the growing body of knowledge by comparing the application of the citizen participation form of coproduction in multiple settings. The selected cases are both situations in which a person was missing for a longer period of time in which citizens actively participated in the search for the missing persons. The two cases will be compared in a most similar case design. Comparative case study can be done by means of a most similar or most different method. The most similar case study method makes use of cases that are similar on all independent variables, *except* the independent variable of interest (Seawright & Gerring, 2008, p. 304). The most different case study method is the reverse of the most similar method. The method chooses cases that are most different. The cases considered are those in which only one independent variable and the dependent variable covary (Seawright & Gerring, 2008, p. 306). All other independent variables show different values, making it most different cases. There is only similarity on the variable of interest and the outcome (Seawright & Gerring, 2008, p. 306). This research uses a most similar case study design because the cases

will be selected upon the presence of coproduction. The independent variable that will vary and will be used as a subject for the comparison is the outcome in terms of effectiveness. By exploring the application of coproduction in the two most similar cases, a broader understanding of the application of citizen participation in the domain of investigative practice in search for missing persons can be provided.

III. Case selection

In the Netherlands, little research has been done into the phenomenon of lost persons. A missing person is any person who, against reasonable expectation, is absent from the environment deemed usual or safe for that person, whose whereabouts are unknown and in whose interest it may be considered that the whereabouts be ascertained (Hofman et al., 2011, p. 11; Ministerie van Veiligheid en Justitie, 2014, p. 1). Schouten, Van den Eshof and Vos (1996) estimated on the basis of a national survey that 16,000 people were lost each year in the Netherlands. In 2002 Schouten and Van den Eshof (2002), adjusted the average of missing persons to 16,000 to 20,000 reports of missing persons per year. Feenstra (1993, in Van Leiden & Hardeman, 2015b, p. 15) previously assumed a national average of 3500 missing persons per year. Apart from the varying size estimates, the majority of missing persons cases are cleared up within a short period of time and usually have a positive outcome. In 80% of the cases, it is clear where the missing person is within 24 to 48 hours (Landelijke Eenheid Politie, 2021). In the event that a missing person is not found quickly, it creates unbearable situations for the close ones. Therefore, it is important to always continue to improve the effectiveness of investigation in the search for missing persons.

For this research, two Dutch cases are selected to further expand the knowledge on the effectiveness of coproduction during investigations of missing persons in the Netherlands. To juxtapose and compare the use of coproduction, the case of Anne Faber in 2017 and the case of brothers Ruben and Julian in 2013 are selected. These cases are unique when looking at the coproduction between the police and the citizens. Yin listed five possible characters for a case study to be invaluable, namely when the case is a critical, extreme or unique, representative, revelatory or a longitudinal case (Yin, 2018, p. 28). By the missing of Anne Faber, the Netherlands was under the spell of her disappearance. Not only the police set up a search, but also her family and friends searched via '*crisisteam-Faber*'. The cooperation and interaction between the police and the family makes this case special. It went beyond citizen participation in its classic form. It was an institutionalised collaboration between the two crisis teams (Van

Duin, Bakker & Wijkhuijs, 2018, p. 237). This makes the case a relevant and a representative case to study the phenomenon of coproduction within the context of research on missing persons. The missing of the brothers Ruben and Julian in 2013 brought massive media attention, showing that the involvement in the search for the brothers was unprecedented. In this case, the massiveness with which citizens conducted the search was a distinguishing factor from previous searches (Jong, Dücker & Holsappel, 2014, p. 159). Due to the massive attention that arose from the citizens, the police had no choice but to accept this help and cooperate with the citizens to find Ruben and Julian. The justification for these two cases can be found in the comparison of presence of cooperation between the police and the citizens. Both are cases where large-scale searches were organized in cooperation with citizens.

IV. Data collection

Various relevant open resources are needed to answer the research question properly. Data is selected by triangulation to get a thick description of the cases. By collecting information through a triangulation of sources a valid and complete multidisciplinary perspective on the two cases is made. The data selected exists of official reports about the missing of Anne Faber and brothers Ruben and Julian released by *Instituut Fysieke Veiligheid, Onderzoeksraad voor de Veiligheid* and *Ministerie van Justitie en Veiligheid*, articles in journals released by *Politievakblad Blauw, Het tijdschrift voor de politie, Politieacademie* and *Nationale Veiligheid en Crisisbeheersing*, official statements of the National Police Unit (in Dutch: *Landelijke Eenheid Politie*) and media reports. Since these are all open sources, there is feasibility.

In order to analyze the coproduction and effectiveness of both cases, relevant media reports were retrieved from *AD, De Gelderlander, De Telegraaf, De Volkskrant, NOS, NRC Handelsblad, NU.nl, Omroep Gelderland, RTL Nieuws, RTV Utrecht, and Trouw*. These news sites were chosen as a medium because it reports on Dutch issues and topics, and in January 2021 these news sites, except for *Omroep Gelderland* and *RTV Utrecht*, were among the top 50 most viewed online media in the Netherlands (NOBO, 2021). Besides, the reports did not have to be translated since the content is written in the fluent language of the researcher. When a text needs to be translated there is a risk of its meaning to be lost in translation and that interpretation will lead to bias and different results. *De Gelderlander, Omroep Gelderland* and *RTV Utrecht* were added to also involve regional reporting.

In the selection of the articles, the articles which included content on the progress of the searches for Anne Faber and Ruben and Julian were searched by filling in the words “Anne

Faber”, “vermissing Anne Faber”, “zoektocht Anne Faber”, “Ruben en Julian”, “vermissing Ruben en Julian” and “zoektocht Ruben en Julian”. For the case of Anne Faber, a timeframe was chosen between 29 September 2017 and 12 October 2019. For the case of Ruben and Julian, a timeframe was chosen between 7 May 2013 and 19 May 2015. In choosing these time frames, it allowed for the inclusion of media reports published from the time the persons were missing up to two years after the missing persons were found. These time frames covered the entire search for the missing persons, and it allowed for the inclusion of articles that reviewed the searches.

V. Data analysis

Data triangulation makes it possible to provide an in-depth and holistic understanding of coproduction during the search for missing persons. The documents are analyzed based on qualitative content analysis. In order to make this possible, the concepts of coproduction and effectiveness are operationalized. These are elaborated on the basis of the insights gained in the theoretical framework. In this research deductive analysis is performed, using theory on coproduction and effectiveness and operationalizing these into measurable indicators. This allows the effectiveness of coproduction applied in the cases of Anne Faber and Ruben and Julian to be examined. In table 1 the operationalization of coproduction is elaborated. Table 2 provides the operationalization of effectiveness.

TABLE 1: OPERATIONALISATION OF COPRODUCTION

Concept	Indicator	Operationalisation
Coproduction	<i>Mutual dependence</i>	<p>Incentives to cooperate arise because of the fact that the actor's dependent on each other in achieving the goals since not all actors do have certain resources as expertise, money, power and support.</p> <p>The network involved is pluriform since it consists of a vary of actors each with its own specific interests, knowledge and resources.</p>
	<i>Common perception</i>	<p>The actors jointly agree on an issue to be solved.</p> <p>Perceptions and perspectives of those actors involved are attempted to be connected.</p>
	<i>Shared practice</i>	<p>In order to solve the issue and achieve the goals, the actors involved jointly agree on the joint initiatives that will be undertaken and what each role in these actions will be.</p>
	<i>Mutual benefit</i>	<p>The interests of actors are intertwined.</p> <p>A common interest is presence that cannot be achieved independently, which causes the actors to cooperate.</p>

TABLE 2: OPERATIONALISATION OF EFFECTIVENESS

Concept	Indicator	Operationalisation
Effectiveness of investigation of missing persons	<i>Information gathering and estimation</i>	Considering the report and the person reporting as important sources of information
		Continue asking questions and record
		Actively collect stories from witnesses / people left behind
		Conduct extensive (social) background research
		Consider the location where the missing person was last seen as a possible crime scene
	Investigate the belongings of a missing person	
	<i>An investigative approach to the case</i>	Viewing the case from an investigative perspective
		Searching for leads for the deployment of investigative means
	<i>Commitment to the search</i>	Starting the investigation as soon as possible
		Short lines of communication within the police
		Transferring the case from police officers to criminal investigation department in time
		Sufficient capacity and quality are present
		Bring in (internal and external) expertise
	<i>Communication about the case</i>	Making use of the media
		Involve citizens actively and creatively
		Being prepared for information flows

	<p>Being wary of unreliable informants</p> <p>Keeping those left behind properly informed</p> <p>Widely publicize the missing persons case within the police organization</p>
<i>Tactical detection</i>	<p>Keep all scenarios open</p> <p>There is focus on means of transportation and movement</p> <p>Tactically capitalize on weaknesses of the suspect</p>
<i>Forensic detection</i>	<p>The possibilities for technical investigation are optimally exploited</p> <p>DNA of the missing person is secured as quickly as possible</p> <p>Volatile data and goods are immediately safe</p> <p>The search is only carried out by the right resources</p>

VI. Generalization and validity

To clarify the boundaries and limitations on generalization of the research the focus of the research must be addressed. By applying a comparative case study design the generalizability is higher compared to doing a single case study. The internal validity is often high, as the context is understood thoroughly and detailed insight is provided. Yet, the external validity is low in case studies. The external validity is the possibility to generalize findings and conclusions of the study across social settings (Bryman, 2016, p. 348). Since this research will have a focus on the Netherlands and the Dutch police, the study is not related to other nationalities. Furthermore, there is a boundary when looking at the type of investigation practise that is being studied. The research is focused on the search for missing persons and is not related to other type of investigation practices by the police. The last reason for the external validity to be low, is of the specific amount of cases that are compared to each other. Regarding the ability

to generalize the outcomes of this research, the application of coproduction is very much case specific. This does mean that the generalisability of the study to a broader population is low; links with other types of investigations are difficult to make. However, it will be valuable to create a broader understanding of coproduction in order to create a generalized understanding of the effectiveness of coproduction during the search for missing persons. Hence, the aim of this research is to contribute to a general understanding of the effectiveness of coproduction during the search for a missing person in the Netherlands.

The reliability of case studies is often low because case studies allow for interpretation during the research. Since there are limits to the processing of information and the research is done alone, there can be observation bias. An attempt to increase the reliability of the study is by using multiple types of sources. By examining the same topic through multiple types of sources, the information can be put into perspective. This allows (apparent) contradictions to be better examined.

4. Case Study Analysis

I. The missing of Ruben and Julian

i. Explanation of the case

On Tuesday morning, May 7, 2013, the body of a 38-year-old man is found in Doornse Gat. Barendse, police chief of *Midden-Nederland*, indicates that the police initially assume suicide (Barendse in NOS, 2013). In the afternoon, after identification of the man, it becomes clear that his sons should be with their father and are missing (NOS, 2013; Landelijke Eenheid Politie, 2013a). The sons concerned are nine-year-old Ruben and seven-year-old Julian. The day before, the sons were picked up by their father from their mother's house, the parents were divorced (RTL Nieuws, 2013a; Van Kampen, 2013a). The police started a large-scale search for the brothers. In the beginning of the evening, after it was clear that the brothers were missing, the mother posted a message on Facebook asking people to look out for her children (Van Kampen, 2013a). This led to citizen initiatives to set up joint searches (Van Duin, Bakker & Wijkhuijs, 2018, p. 238). A period follows in which there is massive support from society to find the disappeared brothers (Van Duin & Wijkhuijs, 2014, p. 26). Citizens organized themselves through a Facebook page managed by Wanda van den Bovenkamp and a Twitter account @RubenJulianNL managed by Hans Huizenga (Van Duin, Wijkhuijs & Eberg, 2016, p. 49; Jacobs & Jong, 2013, p. 32). On May 19, the search comes to an end when the bodies of Ruben and Julian are found by a passerby in the outskirts of Cothen (Van Duin, Wijkhuijs & Eberg, 2016, p. 49; Penris, 2017).

ii. Indication of coproduction

In order to understand the effect of coproduction on the search for Ruben and Julian, it is necessary to first briefly elaborate on the coproductive context in which the search for Ruben and Julian took place. In this case, citizens played a role. The citizens have been both organized and unorganized. This chapter refers to citizens in its broad sense. Where reference is made to the organized or unorganized group, this is explicitly mentioned. In the following text, it is shown that the four components of co-production are individually all present in the partnership between police and the organized citizens during the search for Ruben and Julian. There will be started with the indication of mutual dependence, followed by a common perception, shared practice and mutual benefit.

Mutual dependence

In the case of Ruben and Julian, the potential search area was larger than in previous missing persons cases. The search area stretched from Doornse Gat, where the father's body was found, to Neerbeek, where the father and boys were last seen on camera footage at a gas station the night before Ruben and Julian went missing. This allowed citizens to offer their help in several places around the country (Jong, Dückers & Holsappel, 2014, pp. 158-159). The police, despite advice from their own experts, eventually chose to let the help that emerged from the community take place in a supervised manner (Bril in Van Ommeren, 2014). Henk Bril, head of the *Midden-Nederland* Criminal Investigation Department, indicates that in this way many extra eyes and ears were available with which large areas could be searched (Bril in Van Ommeren, 2014).

Van den Bovenkamp was one of the initiators of the organized citizen searches who, on the first evening of the disappearance, made an impulsive appeal via Facebook for citizens to organize themselves and help with the search (Jong, Dückers & Holsappel, 2014, p. 166). Van den Bovenkamp indicated that she immediately found out it was not as easy as thought. A media circus ensued, and there was insufficient knowledge of things that needed to be taken into account such as game being hunted, private plots of land in the forest and the technique of alignment (Van den Bovenkamp in Sikkema, 2013, pp. 1-2). This created mutual dependence. In order to continue the searches for Ruben and Julian, the police needed the citizens as extra support to search the large area and the citizens needed the police for their knowledge.

Common perception

During the fourteen-day search for Ruben and Julian, the police and the citizens always had a common goal. The main priority of the search was to find out where Ruben and Julian could be (Jong, Dückers & Holsappel, 2014, p. 160; Barendse in NOS, 2013). The police called the interest in the case from both police and citizens as 'undiminished' (Volkskrant, 2013a). The search for Ruben and Julian is conducted from this shared perception. The police and the citizens jointly agree on the issue to be solved.

At the beginning of the search, the police were hesitant to cooperate with citizens (Van Duin, Bakker & Wijkhuijs, 2018, p. 238). Experts from the police indicated that traces could be destroyed if uncoordinated searches took place and therefore did not recommend cooperation (Bril in Van Ommeren, 2014; Penris, 2017). On the one hand, the police could benefit from the public's help; on the other hand, uncoordinated searches could actually disrupt and even damage the investigation (Jong, Dückers & Holsappel, 2014, p. 157). However, civilians mobilized

themselves and wanted to start searches. The citizens believed that the police could benefit from the help from the public (Jong, Dückers & Holsappel, 2014, p. 157; Penris, 2017). Ultimately, the decision was made to conduct the citizen searches in a guided manner (Bril in Van Ommeren, 2014; Penris, 2017). Even though the police had their own considerations about being reluctant to accept the help from citizens, a middle ground was sought in which the public actions were accompanied by experienced police officers who provided structure to the searches (Jong, Dückers & Holsappel, 2014, p. 161). With this decision, an attempt is made to relate the perceptions and perspectives of the actors involved.

Shared practice

From the beginning, the police were faced with spontaneous searches by citizens. Despite hesitant steps in the beginning to enter into cooperation with citizens (Van Duin, Bakker, & Wijkhuijs, 2018, p. 238), the police chose to take on the task of coordinating these actions of the citizens (Barendse in NOS, 2013; Jong, Dückers & Holsappel, 2014, p. 161; Dückers, Hoof & Holsappel, 2019, p. 10). As of May 9, most searches organized by citizens were accompanied by the police. The police initially responded to the citizen searches on an ad hoc basis, but soon recognized the need to channel the initiatives (Jong, Dückers & Holsappel, 2014, p. 155). With the help of staff members affiliated with the National Organization of Police Volunteers, citizens were guided, and it is determined which search areas were opened to them (Jong, Dückers & Holsappel, 2014, p. 155). The Twitter account @JulianRubenNL and a Facebook page played a major role in the coordination (Van Duin, Wijkhuijs & Eberg, 2016, p. 49). With this, the offline citizen help was channeled by fellow citizens through social media (Jong, Dückers & Holsappel, 2014, pp. 161-162; Van Duin, Wijkhuijs, Eberg, 2016, p. 49).

More structure in the cooperation between citizens and police gradually emerged. A structure eventually emerged in which organized citizens, after consultation with the police, were given the space to organize search operations around the country under the guidance of the police (Jong, Dückers & Holsappel, 2014, pp. 161-162). The organized group (the initiators of the Facebook page and Twitter account) coordinated searches with the police to avoid disrupting criminal investigations (Jong, Dückers & Holsappel, 2014, pp. 161-162). With this, the offline citizen help was channeled by fellow citizens through social media (Jong, Dückers & Holsappel, 2014, pp. 161-162; Van Duin, Wijkhuijs & Eberg, 2016, p. 49). At the same time, the police discouraged through (social) media unaccompanied searches and promoted to coordinate searches with police (RTL Nieuws, 2013b; Volkskrant, 2013b; De Gelderlander, 2013). The police were present on site to guide the searchers where necessary and to prevent

traces from being destroyed (RTL Nieuws, 2013b; RTV Utrecht, 2013a; Volkskrant, 2013c). Searchers were instructed not to touch anything if found. If something was found the coordinator of the searches contacted the police for further investigation (Volkskrant, 2013d; Thijssen, 2013). On May 19, the organized citizens had initially planned a search in the woods around Leersum. This was cancelled by the citizens themselves after consultation with the police, since the citizens did not want to disrupt the investigations (Volkskrant, 2013e). The police would search the area again with specialized searchers from the navy. The police and the organized group of citizens jointly agreed on the joint initiatives that are undertaken and knew what each role in these searches are.

Mutual benefit

The interest of both the police and the citizens is to find Ruben and Julian. These interests are intertwined with each other. This common interest is hard to achieve independently. The citizens depend on the police because the police have expertise and knowledge that is useful and necessary during the search for Ruben and Julian. Conversely, the search area was large from the start and covered an area from Doornse Gat in Utrecht province to Neerbeek in southern Limburg. The police could therefore use extra support provided by the citizens. To solve the case, the police may benefit from having more eyes and ears available (Bril in Van Ommeren, 2013). This makes the common interest to find Ruben and Julian more difficult to achieve if there is no cooperation. The possibility to gain mutual benefit causes both the police and the organized citizens to cooperate with each other.

iii. The effectiveness of the investigation

Having indicated that the police and the organized citizens coproduced during the search for Ruben and Julian, it is now possible to assess the extent to which the investigation was effective. In order to determine whether the investigation of the search for Ruben and Julian has been effective, there needs to be looked at the six indicators for effective investigation of a missing person. Each indicator will be elaborated in this section, beginning with information gathering and estimation, followed by an investigative approach, commitment to the search, communication about the case, tactical detection and forensic detection.

Information gathering and estimation

The first hours after a person goes missing count. In order to properly assess a missing person case, it is important to gather as much information as possible. Estimating the urgency of the

missing person case is crucial because the rest of the research will be based on this (Van Leiden & Hardeman, 2015, p. 126). Therefore, the following are considered as important when it comes to information gathering and estimation; the report and the person reporting are considered as an important sources of information, there have been continue asked questions and made records, there have been actively collected stories from witnesses and people left behind, an extensive (social) background research is conducted, the location where the missing person was last seen is considered as a possible crime scene and the belongings of the missing person are investigated. In this case, the missing of Ruben and Julian came to light because the body of the father of the two brothers was found and not by means of a report, making the report and the person reporting a less important source of information. Therefore, it is not included in the assessment of information gathering and estimation.

The police continued to collect stories from witnesses and people left behind. Barendse indicates that in total a large number of witnesses were interviewed and a large number of neighborhood searches at various locations took place in the province of Utrecht and Limburg (Barendse in NOS, 2013; Eigenraam, 2013). Not only witnesses were heard, also those people who were left behind were interviewed in order to conduct extensive (social) background research. On the day of the disappearance, an interrogation of 3 hours took place with the mother of the brothers and with the father's girlfriend (Van Ommeren, 2014; Bril in Van Ommeren, 2014; AD, 2013). In addition, family members, friends and colleagues as well as the father's ex-girlfriend were interviewed (Volkskrant 2013f; Volkskrant, 2013g). These stories reveal a background of a problematic divorce that had been going on since 2008. The family had been in contact with social workers and various agencies on several occasions (Eigenraam, 2013). Shortly before the disappearance of the brothers, the Child Protection Board decided to place them under supervision of *Bureau Jeugdzorg* (Stoffelen, 2013; Eigenraam, 2013; Van Steenbergen, 2013). In addition to this social background, a background check was conducted on the father of the missing brothers. A pin analysis revealed that the father bought four orange lashing straps and a green flashlight, among other things, at a hardware store in mid-April (Landelijke Eenheid Politie, 2013b). One orange turnbuckle was found on the father's body, the other three lashing straps and the flashlight were without trace (Landelijke Eenheid Politie, 2013). In addition, money was withdrawn by the father the day before the disappearance, while investigation by the detective team showed it was unusual for the father to withdrawn money (Volkskrant, 2013h). When the body was found, only a small part of this money was still present (Volkskrant, 2013h).

The location where Ruben and Julian were last seen changed over time due to newly obtained information. Until May 8, the brothers were last seen in their hometown Vleuten, the residence of the father (RTL Nieuws, 2013a; NU.nl, 2013). The police did a house search in Vleuten on May 7 directly after it is known that the boys are missing (AD, 2013). Besides the house search, no search operation was started in Vleuten. Instead, the police started a search in Doornse Gat, the place where the father's body was found (RTL Nieuws, 2013; NU.nl, 2013; Zantingh, 2013). On May 8, the police retrieved footage from May 6 at 22:15 from the gas station in Neerbeek where the father and brothers can be seen in a car (RTL Nieuws, 2013; Barendse in NOS, 2013; Bril in Van Ommeren, 2014). The search expanded to Neerbeek and further investigation was made into the route the father had taken (Barendse in NOS, 2013; Van Duin, Wijkhuijs & Eberg, 2016, p. 49; NU.nl, 2013).

Ruben and Julian's belongings were searched both in the mother's and father's house (AD, 2013; RTL Nieuws, 2013b). An inventory of the clothing shows that there may be items of clothing missing (RTL Nieuws, 2013; Van Kampen, 2013b; Van Ommeren, 2014). One of the items sought is a camouflage print T-shirt that Julian was wearing at the time the father picked up the boys from their mother's house (Bril in Van Ommeren, 2014).

In conclusion, the police continuously interviewed witnesses and people left behind. With this, a (social) background analysis was conducted. In addition, the belongings of Ruben and Julian have been examined. The last locations where the boys were seen had been approached as a crime scene, however, besides the house search, the area around the father's house was not searched further, even though the boys were initially last seen there.

An investigative approach to the case

With the knowledge that the start of an investigation is important (Cameron, 1990, pp. 487-490), the approach of a missing person investigation is important since it partly determines what is or can be undertaken. For this, the police need to look at the case from an investigative perspective and there needs to be searched for leads for deployment of investigative means.

The case is viewed from an investigative perspective from the moment it becomes clear that the brothers should have been with their father and have disappeared without a trace (Landelijke Eenheid Politie, 2013a). The first hours had already passed in this case, as it became clear in the late afternoon that the two brothers had been entrusted to their father's care at the time of his suicide (Barendse in NOS, 2013; Jong, Dücker & Holsappel, 2014, pp. 158-159). The police scaled up to a Team Large Scale Investigation (in Dutch: *Team Grootschalige Opsporing*, TGO) and the detection and search for the brothers is started (Barendse in NOS,

2013). Through this investigative approach, an attempt is made to deploy investigative means. At the place where the father committed suicide an investigation started that evening (Van Kampen, 2013; Van Ommeren, 2014). On the night of May 7-8, an Amber Alert is issued at 1:15 a.m. (Jong, Dückers & Holsappel, 2014, pp. 153-154). In the following days, investigations were conducted into the possible route taken by the father the night before the disappearance and the searches were extended to areas from Neerbeek to Doornse Gat (RTL Nieuws, 2013; NU.nl, 2013; Barendse, in NOS, 2013).

In conclusion, from the moment it became clear that the boys were missing, the case was approached from an investigative perspective. In doing so, the police searched for leads for deployment of investigative means.

Commitment to the search

To assess the commitment to the search, it is examined whether the investigation is started as soon as possible, if there are short lines of communication within the police, if the case is scaled up in time from police officers to criminal investigation department, if there is sufficient capacity and quality present and if certain knowledge is not available within the team, internal and external expertise is brought in.

As mentioned before, the investigation was started directly after it became clear that the two brothers had been entrusted to their father's care at the time of his suicide (Barendse in NOS, 2013; Jong, Dückers & Holsappel, 2014, pp. 158-159). At that point, the police scaled up to a TGO and the detection and search for the brothers was started (Barendse in NOS, 2013). When scaling up to a TGO, a detective team is also set up (Bril in Van Ommeren, 2014). The case of Ruben and Julian was thus transferred from police officers to a criminal investigation in the afternoon of 7 May. Within this team, the agreement arose that if something suspicious is found during the search, the coordinator of the search contacts the police, who will contact the criminal investigation department if necessary (Volkskrant, 2013d; RTV Utrecht, 2013a). Through this short line of communication, the criminal investigation department is kept informed of the civilian searches.

The case of Ruben and Julian involved more than 100 police officers, according to Barendse (Barendse in NOS, 2013). With the help of a detective team, experts and citizens, there is a lot of capacity and quality present during the search for Ruben and Julian. Daily use was made of the forensic investigators, digital investigators, behavioral experts, forensic archaeologists, family investigators, the criminal intelligence unit and police volunteers (Barendse in NOS, 2013; Volkskrant, 2013i). However, the police have not been able to support

all searches. Most of the searches were organized by the initiators of the Facebook page and Twitter account and thus with the knowledge of the police, which allowed the police to be present for support. Due to the large mass of people who wanted to help, there were also daily unorganized searches set up by citizens in which the police were not able to support the search (RTL Nieuws, 2013c).

In addition to the internal expertise, external expertise is brought in. Experts from defense, traffic experts and a Belgian expert in child disappearances have been deployed and involved in the investigation (Barendse in NOS, 2013; Van Kampen, 2013b). The Belgian expert on missing children concerns chief of police Alain Remue, leader of the Belgian missing persons unit (RTV Utrecht, 2013a; Volkskrant, 2013j). Alain Remue was deployed for reinforcement on Monday, May 13, after the police had received 1000 tips by that time (NU.nl, 2013; Van Kampen, 2013b). As a result of the flood of tips that came in after a broadcast of *Opsporing Verzocht*, extra manpower was called in for the following day to sift through all the information (Volkskrant, 2013k). In addition, use is made of police volunteers. The many volunteers who volunteered to help search and organized themselves through social media were coordinated by the police volunteers (Jong, Dückers & Holsappel, 2014, p. 155).

In conclusion, the investigation started as soon as possible, there were short lines of communication within the police force and there was an immediate upscaling to a criminal investment department. There was a lot of capacity and quality available and external expertise was brought in. However, the public attention for the case was high. The high level of attention that society had for the case was not only expressed in the many tips, but also in the many people who wanted to help search. This resulted in the police not being able to support all searches. The capacity of the police can thus be questioned.

Communication about the case

In order to find the missing person, it is useful to involve as many eyes and ears as possible. Communicating about the missing person to citizens, but also within the police organization is therefore important (Van Leiden & Hardeman, 2015, p. 142). In order to assess the communication about the case, there will be looked into the use of the media, the active and creative involvement of citizens, the preparation for information flows, the awareness of unreliable informants, the informing of those left behind and the publicizing within the police organisation.

The police made use of the media several times during the entire period that Ruben and Julian were missing. On the night of May 7-8, an Amber Alert was deployed (Jong, Dückers &

Holsappel, 2014, p. 154). For the first time, it was used in a European form. This meant that the alert was also distributed in Belgium and Germany (RTL Nieuws, 2013b; Renard, 2013a). In addition, the police spokesperson spoke regularly to the press, a press release is sent from the police several times with information and appeals for sharing specific information, a list of answers and frequently asked questions is published online on May 17, and a press conference is held on May 19 (Landelijke Eenheid Politie, 2013c, NOS, 2013). The program *Opsporing Verzocht* is also used in which not previously given information and footage were shown (Van Kampen, 2013b; RTL Nieuws, 2013a). Finally, the social media channels Facebook and Twitter were used to regulate the citizens' searches (Jong, Dückers & Holsappel, 2014, p. 166).

Citizens were actively involved by in the searches for Ruben and Julian by letting the citizens help search the search areas and by providing information to them through the various channels. On May 11, for example, a map was revealed showing the route taken by the father (RTL Nieuws, 2013a). On May 12, the police released three photos of items found near the father's body and stated that the police are looking for a pair of the man's mountain boots and orange tow cable (RTL Nieuws, 2013a, Van Kampen, 2013b). On May 17, the police announced that they are looking for a camouflage-print T-shirt of the missing Julian and a pair of red underpants of the father (RTL Nieuws, 2013a; Van Kampen, 2013b; Bril in Van Ommeren, 2014). However, from the initiators of the citizen search operations, there is repeated indignation about the late communication from the police. The question arises why information was not shared with citizens more quickly. Wanda van den Bovenkamp, a friend of the mother and initiator of the organized searches, stated that it was unfortunate that the police did not announce earlier that there was being searched for shoes and part of a tow cable until May 12. Van den Bovenkamp indicates that, if this knowledge was shared earlier, the citizens could have looked for it specifically and one could have looked in their garbage can. The garbage had already been collected by then (Van den Bovenkamp in Volkskrant, 2013m; Sikkema, 2013, p. 2). There is also indignation after the broadcast of the programme *Opsporing Verzocht* reveals that the police again withheld information. In the programme, photos are shown of clothes the father and brothers were wearing, it is reported that the father withdrew money, which must have been spent at an unknown location, and images are shown of a car in Leersum, which is presumably that of the father (Van Kampen, 2013b; RTL Nieuws, 2013a). The initiators of the organized citizen searches argue that it could have sped up the investigation if the items had been shown earlier (Volkskrant, 2013l; Van Kampen, 2013b).

Citizens eventually become creatively involved in the searches by engaging the organized citizens in online support of the offline searches. In the beginning, the police are

suspicious of the help of citizens in searches. Among other things, the police warn against destroying traces (Huiskamp, 2013; Jong, Dückers & Holsappel, 2014; Kerstholt & De Vries, 2018, p. 18). However, the police realized that the help of the citizens could not be turned down. Through social media channels, people were called to come and help and search actions were regulated across the country (Jong, Dückers & Holsappel, 2014, p. 166). The Twitter account @JulianRubenNL and a Facebook page played an important role to organize and coordinate searches performed by citizens, which in some cases attracted hundreds of people (Van Keeken, 2013; Van Duin, Wijkhuijs & Eberg, 2016, p. 49). With this, the offline citizen help was channeled by fellow citizens through social media (Jong, Dückers & Holsappel, 2014, pp. 161-162; Van Duin, Wijkhuijs & Eberg, 2016, pp. 48-49). Social media was the means to mobilize people for searches and to coordinate them. Subsequently, the police were always present at the searches organized through these social media pages (Van den Bovenkamp in Van Keeken, 2013).

The police announced on May 19 that it had received 3000 tips (Jong, Dückers & Holsappel, 2014, p. 155; Volkskrant, 2013a). On several occasions, the police called in additional manpower due to the information flows (Volkskrant, 2013k). Advice was also sought from the missing persons unit of Belgium on how to deal with the volume of tips (NU.nl, 2013; RTV Utrecht, 2013a). The tips concerned a wide variety of information, such as tips about found shoes, clothing and belongings, about shots heard and tips that the boys were seen or found (Van Duin, Wijkhuijs & Eberg, 2016, p. 49). Through the occasional deployment of additional manpower, all tips could be gone through and valued on its reliability (Volkskrant, 2013a).

During the search for Ruben and Julian, the police not only involved a variety of its own specialties in the search. The case was also widely publicized within the German and Belgian police (Volkskrant, 2013g). German and Belgian police were informed because the father refueled in Neerbeek, Limburg, shortly before committing suicide.

In order to keep those left behind properly informed, there was daily contact between the police and the family through a family investigator (Van Ommeren, 2014; Van Duin, Bakker & Wijkhuijs, 2018, p. 243). At crucial moments, contact was established with the mother. The Amber Alert requires the consent of the parent of the missing children. This criterion was met in this case (Jong, Dückers & Holsappel, 2014, pp. 158-159). The mother was also informed about the found bodies on May 19 before this was brought out by means of a press conference (Jens in Van Ommeren, 2014; Bac in NOS, 2013). In the aftermath, attention was primarily focused on those directly involved: the mother, the grandparents, the girlfriend

of the father and the school and soccer club of the brothers (Jong, Dückers & Holsappel, 2014, pp. 163-164).

It can be concluded that the media was used several times and in different ways during the search for Ruben and Julian. Through the use of media, efforts were made to actively involve citizens in the search. However, from the initiators of the citizen search operations, there is repeated indignation about the late communication from the police. The organized citizens were creatively involved through the use of their social media channels. The large amount of public attention resulted in a large flow of information, which was checked for reliability by the deployment of extra manpower. In addition, the case was shared within the police organization both nationally and internationally. Those left behind were also properly informed during the search for Ruben and Julian.

Tactical detection

The tactical search for missing persons focuses on finding out the whereabouts of the missing person and the reason for the disappearance. In order to evaluate the tactical detection during the search for Ruben and Julian, it has been examined whether the police kept all scenarios open, had a focus on means of transportation and movement and tactically capitalized on weaknesses of the suspect. This last indicator of tactical detection cannot be addressed because the suspect in this case was no longer alive by the time it became clear that the brothers were missing.

Police chief Miriam Barendse states that finding the boys has always been the first priority with two scenarios as a basis. First of all, the scenario that the boys were placed with family or acquaintances. Second, the scenario that something had been done to the boys (Barendse in NOS, 2013). The criminal investigation team worked with different scenarios, in which the boys were still alive or not, according to the list of answers to frequently asked questions published by the police (Landelijke Eenheid Politie, 2013c; Renard, 2013b). The scenario that the father had an accomplice, who was hiding the children, was also taken into account (Renard, 2013b; NU.nl, 2013; Volkskrant, 2013n). All scenarios were open from the beginning (Jong, Dückers & Holsappel, 2014, p. 158). Henk Bril, Head Criminal Investigator of *Midden-Nederland*, indicates that in reality, the possibility of some scenarios was doubted the longer the brothers were missing (Bril in Van Ommeren, 2014). In the beginning, the search is focused on speed in the fear of finding the boys too late. After a week this starts to turn around and the search is more focused on searching for a finding place, which is followed with the thought of searching for a hiding place (Bril in Van Ommeren, 2014). A week after the

disappearance, the spokesman of the police Bernhard Jens indicates that the police have come to the finding that there is a high degree of certainty that the father has thought of some things in advance (Jens in Volkskrant, 2013o). This eliminates the scenario that the disappearance was not planned.

In the case of Ruben and Julian, there is a focus on means of transportation and movement. In the press conference on May 19, Barendse mentions that one of the most important activities during the search for Ruben and Julian was charting the route taken by the father (Barendse in NOS, 2013). The mapping of the route starts on Wednesday, May 8, when camera footage from a gas station in Neerbeek, Limburg, shows that the father had refueled there at 22:15 on Monday evening (Jong, Dückers & Holsappel, 2014, p. 154; Van Kampen, 2013b; Zantingh, 2013). Therefore, on May 8, the police call for people to report if they have seen the blue Hyundai Getz with license plate number 08-NT-BV driving on May 6 or 7 (RTL Nieuws, 2013). On May 9 and 10, this call is repeated on the police website with the addition that the car was seen in Rhenen on the provincial road N233 at 1:40 in the night of May 6-7, presumably in the direction of Leersum (Landelijke Eenheid Politie, 2013d; RTL Nieuws, 2013; Van Kampen, 2013b). On May 10, it becomes clear that at 4:16 am the father's phone was used near Leersum and the police have partially mapped possible routes (RTL Nieuws, 2013, Boon, 2013). On May 11, the police published a map showing these routes (De Valk, 2013). The routes were determined using telephone data (Van Kampen, 2013b). On May 15, it becomes known that on footage shown during the program *Opsporing Verzocht* it is not the father's car driving in Leersum at 2:00 am. This was reported to the police by observant citizens. Further investigation of the footage and an analysis by a traffic expert eventually confirmed this (RTL Nieuws, 2013).

In conclusion, the police initially kept several scenarios open. As time went on, the findings ruled out scenarios. Furthermore, the police focused on the means of transportation and movement by analyzing the father's route.

Forensic detection

Forensic investigation looks for traces that can tell the story of the missing person. These can be technical traces but also biological traces (Van Leiden & Hardeman, 2015, p. 152). In order to evaluate the forensic detection during the search for Ruben and Julian, it has been examined whether the possibilities for technical investigation are optimally exploited, the DNA of Ruben and Julian is secured as quickly as possible, violate data and goods are immediately safe and if the search is carried out by the right resources.

The forensic service was called in several times for technical investigation. The police spokesman stated that during the search for the missing brothers, items were regularly found and were further investigated by the forensic service (Van Kampen, 2013b). On May 19, the forensic investigators were deployed to identify the bodies found in the water near Cothen. Since the bodies had been in the water for two weeks, identification was difficult (Jong, Dücker & Holsappel, 2014, pp. 155-156). By means of DNA taken from the mother, it was examined whether the bodies were that of Ruben and Julian (Van Ommeren, 2014). A further analysis by the Netherlands Forensic Institute (NFI) based on DNA from the mother indicated that it concerned the brothers (Jong, Dücker & Holsappel, 2014, pp. 155-156). In addition, the possibilities of technical investigation were utilized by issuing an Amber Alert, performing the pin analysis and an analysis of telephone data and camera footage. Commenting on the course of the investigation, Barendse indicated that this technical investigation had led to a few crucial moments. These included the fact that camera footage from the filling station showed that the brothers were still alive on 6 May at 22:15 hours, that the father's car was seen on camera footage and that the father had been in telephone contact on the night before the disappearance (Barendse in NOS, 2013).

Camera footage is part of volatile data since it is data that is no longer available after a few days or weeks. By performing a quick bank analysis, it was possible to obtain and secure camera footage of the gas station on the day after the disappearance (Jong, Dücker & Holsappel, 2014, p. 154). As a result, these camera images were secured in time. However, not all types of volatile goods were taken into account. Due to the fact that it was clear to the public belatedly that certain goods were specifically being sought, it was not possible to check the garbage in time because it had already been collected (Van den Bovenkamp in Volkskrant, 2013m; Sikkema, 2013, p. 2).

In order to use the right resources experts and special equipment were deployed several times. For example, military personnel and combat trackers have been used and sonar equipment, helicopters and an F16 had been deployed (RTL Nieuws, 2013; Volkskrant, 2013e, RTV Utrecht, 2013b). In addition, the police were always present during the searches of the organized citizens. Van den Bovenkamp explains that the police instructed the citizens extensively before the civilians started the organized searches (Van den Bovenkamp in Van Heeken, 2013). During each search, the group is divided among coordinators. Each coordinator, often police volunteers or members of the volunteer fire department, had detailed maps of the search area (Volkskrant, 2013d; Jong, Dücker & Holsappel, 2014, p. 161). The coordinators structured the searches by giving a briefing beforehand, explaining how the search would

proceed (Jong, Dücker & Holsappel, 2014, p. 161). Coordinators call in the police if it is thought that they found something that may be of interest (Thijssen, 2013). However, coordinators were sometimes sent out with large groups of people without detailed maps (Jong, Dücker & Holsappel, 2014, p. 161). In addition, civilians have searched with sticks instead of the proper material the pros (Thijssen, 2013). Research also shows that the military started searching at night for form's sake under pressure from the media. Chief Officer of Defense indicates that one cannot search decently at night and even traces can be destroyed (Van Duin, Bakker & Wijkhuijs, 2018, p. 243; M. Bos, 2018). Furthermore, by the great mass of people who wanted to help, there were also unorganized searches set up by citizens in which the police could not support the search which led to unorganized searches (RTL Nieuws, 2013c).

It can be concluded that, despite the fact that the police optimally exploited technical investigation, some things went wrong in the forensic detection. By using the DNA of the mother instead of the children themselves it had to be examined whether it concerned the bodies of Julian and Ruben. In addition, volatile data and goods were partly taken into account. Despite the possibilities of using the appropriate resources, it must be concluded that the searches were not always carried out by the right sources.

iv. Conclusion of the case

Level of coproduction

From the beginning, the police were faced with spontaneous searches by citizens. In order to continue the searches for Ruben and Julian, the police needed the citizens as extra support to search the large area and the organized citizens needed the police for their knowledge. Despite hesitant steps in the beginning to enter into cooperation with the citizens, the police eventually chose to take on a coordinating role. As of May 9, more structure in the cooperation between the organized citizens (the citizens united through the Facebook page and Twitter account) and police emerged in which citizens, after consultation with the police, were given the space to organize search operations around the country under the guidance of the police (Jong, Dücker & Holsappel, 2014, pp. 161-162). From that point most searches organized by citizens are accompanied by the police. The organized group coordinated searches with the police to avoid disrupting criminal investigations. With this, the offline citizen help was channeled by fellow citizens through social media. The police and the organized group of citizens jointly agreed on the joint initiatives that needs to be undertaken and knew what each other's role in these searches were. Therefore, it can be concluded that the cooperation between the police and the organized citizens involved a level of coproduction. Yet, due to the large mass of people who

wanted to help, there were also daily unorganized searches set up by citizens in which the police were not able to support the search. With the unorganized citizens, there is no coproduction.

Level of effectiveness

To determine the level of effectiveness, there needs to be looked into the six indicators of effective investigation into missing persons. First, the indicators that made an effective contribution to the investigation are discussed. Second, the indicators are discussed where there has been an effective contribution to the investigation, but there is also a comment to be made. Finally, the indicators that did not contribute to the effectiveness of the investigation are discussed.

When it comes to the investigative approach to the case and tactical detection, the investigation of Ruben and Julian has been effective. Regarding the investigative approach to the case, the investigation has been successful because from the moment it was known that Ruben and Julian were missing, the case was approached from an investigative perspective and leads were sought for the deployment of investigative means. Also, the tactical detection has been effectively conducted since all scenarios were taken into account and there was a focus on means of transport and movement. The issue of tactically capitalizing on the suspect's weaknesses cannot be addressed because the suspect was no longer alive at the time it became clear that the brothers were missing.

In terms of information gathering and estimation, the investigation has been effective, with the exception of one small point to note in relation to its effectiveness. The police continuously interviewed witnesses and people left behind and with this, a (social) background analysis was conducted. In addition, the belongings of both Ruben and Julian have been examined. When it comes to the importance of considering the place where the missing persons were last seen as a possible crime scene, there is an observation to be made. This location changed over time during the search for Ruben and Julian due to newly obtained information. These locations have been continuously considered as new possible crime scenes. Yet, apart from a house search, no further large-scale investigation was conducted in the vicinity of the father's house, although this was initially the last place where the brothers were seen.

The indicators where effectiveness was not optimal are the commitment to the search, the communication about the case and the forensic detection. First, the commitment to the search. The investigation started as soon as possible, short lines of communication were present, and the case has been transferred to the criminal investigation department in time. In that respect, the case showed an effective commitment to the search. However, it should be noted

that the capacity and quality present in the team was not sufficient. Although there was a lot of capacity and quality present and internal and external expertise was brought in, the police were not able to provide enough capacity to support all searches initiated by citizens. The high level of attention that society gave to the case was expressed in the amount of tips the police received and in the many people that wanted to help search. As a result, the police were unable to coordinate the searches initiated by the unorganized citizens and the police could not ensure that these searches were conducted with the proper resources.

Second, the communication about the case. There was massive media coverage of the case which resulted in large information flows. To be prepared for information flows and to be alert to unreliable informants extra manpower was deployed. In addition, those left behind were properly informed during the searches. In that respect, there has been effective communication about the case. However, when it comes to actively and creatively engaging citizens, it cannot be stated that effective communication has taken place. An attempt was made to actively involve citizens in the search by letting the citizens help search for Ruben and Julian and by providing information through the various channels of the media. The organized citizens are creatively involved in the search through the use of its social media accounts. However, from the initiators of the organized citizen search operations, indignation was repeatedly expressed about the communication of the police and questions were raised about why information was not shared with citizens more quickly. The degree of active involvement can thus be called into question.

Lastly, the indicator forensic detection. The possibilities for technical investigation have been optimally exploited. Nevertheless, shortcomings in effectiveness can be identified in the other points of the operationalization of forensic detection. The DNA of the brothers was not secured as soon as possible after their disappearance, instead identification took place with the DNA of the mother. Volatile data and goods were only partially taken into account, as camera footage was secured in time, but the timely collection of garbage was not considered. In addition, the right resources were not always used during the search.

In overall terms, it can be concluded that the degree of effectiveness was not optimal during the case of Ruben and Julian.

Lessons learned about the link between coproduction and effectiveness

There are a number of observations to be made in this case about the link between coproduction and the effectiveness of the investigation of the missing Ruben and Julian. First, an observation is made on the commitment to search. The high level of public interest in the case was reflected

not only in the many tips, but also in the many people who wanted to help search. The police only reached a level of coproduction with the citizens who organized themselves through the social media channels. The police had close contact with the initiators of the searches organized through these channels. Most searches set up by citizens were organized through the Facebook page and Twitter account. This allowed the police to assist in most of the searches. However, there have also been searches organized by the unorganized group of citizens. The part of the citizens who were also searching for Ruben and Julian but did not organize themselves through these social media channels could not count on police support. Consequently, the police could not ensure that these searches were conducted in the right way and with the right resources, as it did with the organized group of citizens. A learning point that can be drawn from this is that if the police are willing to work with citizens in a form of coproduction there must be enough capacity available within the police to cooperate with all citizen initiatives or the citizen initiatives should be kept under control. This in order to ensure that no searches are conducted without knowledge on how to properly conduct a search.

Second, an observation related to the communication about the case is observed. Despite the fact that the police coproduced with organized citizens, this group of citizens has not been actively involved in the investigation. There is repeatedly indignation from the organized group of citizens about the delay in communication from the police to the citizens. The late sharing of information has resulted in the (organized) citizens not being actively involved in the search. The active involvement of citizens in the search for missing persons, however, is beneficial to the effectiveness of the investigation. In this case, the failure to share information in a timely manner meant, among other things, that not all types of volatile goods were taken into account. Due to the fact that it was clear to the public belatedly that certain goods were specifically being sought, it was not possible to check the garbage in time because it had already been collected (Van den Bovenkamp in *Volkskrant*, 2013m; Sikkema, 2013, p. 2). The initiators of the organized citizen searches argue that it could have sped up the investigation if the items had been shown earlier to the public (*Volkskrant*, 2013l; Van Kampen, 2013b). In addition, not actively informing the public also contributed to a negative impact on forensic detection. After all, securing volatile data and goods is part of effective forensic detection. A learning point that can be drawn from this is that the police need to provide information to the citizens they are coproducing with in time to ensure that the citizen is actively involved in the search for the missing person and the investigation can be carried out effectively.

Third, an observation related to forensic detection is observed. In the case of Ruben and Julian, the organized citizens got instructed on how to deal with traces and got support from the

police in conducting the search. However, the people who participated in the unorganized searches were not instructed beforehand on how to deal with traces and did not experience any support from the police. This contrasts with organized citizens who received instructions from the police before a search and could count on police support during the search. The lesson to be learned is that assisting citizens can have a positive effect on the investigation. In that case, the searches are more likely to be conducted with the right means and in the right way. However, a note should be made. In the search for Ruben and Julian, mistakes were also made in the searches organized by the organized citizens with regard to the right use of means. In the organized searches, civilians have searched with sticks instead of the proper material called the prods and there was not always a detailed map available.

Finally, a positive effect of coproduction on the investigation is observed. Due to the fact that the police coproduced with the organized citizens, it was possible to use this group of citizens creatively during the investigation. The organized citizens were creatively involved in the search by using the social media channels to mobilize people for searches and to coordinate them. In this way, the process of coproduction contributed positively to the effectiveness of the research.

II. The missing of Anne Faber

i. Explanation of the case

On September 29, 2017, 25-year-old Anne Faber was reported missing (Landelijke Eenheid Politie, 2018a). Despite bad weather forecasts, Anne decided to go for a bike ride. She left around 5:00 PM on her black *opoe fiets* for a bike ride in the province of Utrecht (Van Duin, Bakker & Wijkhuijs, 2018, pp. 233-234). Around 6:15 PM Anne informed her boyfriend via WhatsApp that she was in Hollandsche Rading and at 6:50 PM she sent her boyfriend a selfie from the intersection Hilversumsestraatweg / Amsterdamsestraatweg in Baarn (Landelijke Eenheid Politie, 2018a). In this selfie, Anne can be seen standing in the rain in a raincoat. Anne has cycled about twenty kilometers at that time. When Anne's boyfriend sends a message back an hour later at 7:50 PM, this message is no longer read and her family is starting to worry (Van Duin, Bakker & Wijkhuijs, 2018, pp. 233-234). On the night of Friday 29 September to Saturday 30 September, the mother of Anne reports the missing to the police (Landelijke Eenheid Politie, 2018a). A period begins in which police officers, professionals, family and friends together search for Anne. People in the rest of the country also sympathize intensely (Ministerie van Justitie en Veiligheid, 2019, p. 1). The police and the family are gradually

working together more intensively (Van Duin, Jong & Wijkhuijs, 2018, p. 18). On Thursday, October 12, 2017, it is announced that the body of Anne Faber has been found and that Anne has been the victim of a murderer (Ministerie van Justitie en Veiligheid, 2019, p. 1).

ii. Indication of coproduction

In order to understand the effect of coproduction on the search for Anne Faber, it is necessary to first briefly elaborate on the coproductive context in which the search for Anne took place. In this case, citizens played a role. First of all, these were family and friends of Anne, but also the general public has contributed to the search for Anne by providing information through all kinds of channels. In this chapter, the term 'citizens' is used to refer to the public in its broadest sense. If the text refers to Anne's family and friends, this is explicitly stated. In the following text, it is shown that the four components of co-production are individually all present in the partnership between police and citizens during the search for Anne. There will be started with the indication of mutual dependence, followed by a common perception, shared practice and mutual benefit.

Mutual dependence

In the first days of the search for Anne, there is not yet close cooperation between the police and Anne's family and friends, who are called 'crisisteam-Faber'. The police start a districted approach to manage detection, search and communication (Lam, Kop & Plancken, 2019). The police take a supporting role and crisisteam-Faber takes the initiatives in the search during the first days. Crisisteam-Faber starts a search in the area of Baarn and Hollandsche Rading, where Anne was last seen on her last selfie (Lam, Kop & Plancken, 2019; Schouten & Tijmstra, 2018). The police are present at the searches organized by the family to give support. However, the police do not facilitate or direct these searches (Bos, 2017; Faber in Van Dorp, 2018, p. 14; Lam, Kop & Plancken, 2019). Hans Faber, Anne's uncle, indicated that this was 'confusing and frustrating' (Faber in Van Dorp, 2018, p. 14). According to Faber, the way the police faced cooperation with citizens in the early stages of the search could be described as "they just do what they have to, and if it's convenient we support them a little bit, while we do the real work" (Faber, 2019, p. 6).

The cooperation between the police and crisisteam-Faber changes on Tuesday, October 3. Anne's phone records have provided a clearer picture of where to search (Van Duin, Bakker & Wijkhuijs, 2018, pp. 234-235). The police direct searches based on information from the last location of Anne's phone and cooperation with the family increases (Lam, Kop, Plancken,

2019). Prioritized areas are searched by the Mobile Unit (in Dutch: *Mobiele Eenheid*, ME) and/or search dogs (Lam, Kop & Plancken, 2019). Late in the afternoon, Anne's raincoat is found by two of her friends who are affiliated with crisisteam-Faber (Van Duin, Bakker & Wijkhuijs, 2018, p. 235; Lam & Kop, 2020, p. 22). With the finding of the raincoat, the likelihood of a crime increased (Lam & Kop, 2020, p. 22). With this, the area becomes a crime scene and the investigation is scaled up to a TGO (Lam, Kop & Plancken, 2019). Thursday, October 5, marks the turning point in the cooperation between the police and crisisteam-Faber. Anne's family placed an appeal in the *Telegraaf* asking for the search to be expanded (Van Dorp, 2018, p. 14; Van Den Heuvel, 2017a). Crisisteam-Faber has come to a realization that their volunteers started to become exhausted after five days of searching, while there was still a large area that had not been searched yet (Faber in Van den Heuvel, 2017a; Van Duin, Bakker & Wijkhuijs, 2018, p. 235). The search was no longer possible without support and commitment from the police (Van Duin, Bakker & Wijkhuijs, 2018, p. 235; Van den Heuvel, 2017a). Hans Faber states in an interview that time is passing by and it is important for the search to be reinvigorated. In the opinion of crisisteam-Faber, this can only be done if the searches are significantly expanded and take place with more manpower and deployment of technical resources and materials than has been the case (Faber in Van den Heuvel, 2017b). This highlights the dependence of crisisteam-Faber on the police.

As a result of the request in the *Telegraaf* and the finding of the raincoat, a conversation takes place between executive district chief of police Ad Sanders and crisisteam-Faber, in which the family indicates to expect more coordination and direction from the police (Faber in Van Dorp, 2018, p. 14). In order to coordinate the search and to keep each other as well informed as possible, agreements are made regarding information sharing, the deployment of the ME and search locations (Lam, Kop & Plancken, 2019). From this point, the police used the principle that new information and developments are first shared with crisisteam-Faber, then with the directors involved, after which it is shared internally, before informing the media (Van Duin, Bakker & Wijkhuijs, 2018, p. 245; Lam & Kop, 2020, p. 25). Mutual trust and closer cooperation were the result of the conversation between Ad Sanders and crisisteam-Faber (Van Duin, Bakker & Wijkhuijs, 2018, pp. 240-241, 245; Lam, Kop & Plancken, 2019). The police took a clear(er) coordinating role of the search operations and arranged for crisisteam-Faber to have a suitable location to operate from. This became the fire station in Zeist (Van Duin, Bakker & Wijkhuijs, 2018, pp. 240-241; Van Dorp, 2018, p. 12). Here, for example, information was extensively shared about possible bicycle routes that Anne could have taken

and other potentially relevant investigation information was shared (Van Duin, Bakker & Wijkhuijs, 2018, pp. 240-241).

According to the police, *crisisteam-Faber*, meanwhile, was structured in a high degree of organized citizen initiative and had taken the form of a parallel TGO (Van Dorp, 2018, p. 12; Kerstholt & De Vries, 2018, p. 18). It concerned an active family with its own network of expertise, broad knowledge and skills, and who acted professionally (Van Dorp, 2018, p. 12; Lam, Kop & Plancken, 2019; Van Deurzen, 2019). *Crisisteam-Faber* did not only consist of the family of Anne, it involved several families and groups of friends of the family (Faber in van Dorp, 2018, p. 12). This causes *crisisteam-Faber* to have relevant expertise and know-how. It included a bicycle courier who knew every path in the area, project managers from large organizations, an experienced crisis communication manager, friends with a professional film company that can simply magnify footage, a Google-Maps expert who could find every available image to make the route easier to search, an Army helicopter pilot who had better maps available than the police, a teacher at the Police Academy who coordinated searches and coordinated with the ME and a baron that knew exactly who lived where and which properties were empty (Van Dorp, 2018, p. 14; Van Duin, Bakker & Wijkhuijs, 2018, p. 240; Lam, Kop & Plancken, 2019; Faber, 2019, p. 5-6). In order to coordinate everyone, it had assembled several teams with different coordinators. Hans Faber explained that ‘Together with my brother’s wife, I managed the coordinators. We had a search team that was in charge of managing the volunteers and coordinating with the police and ME. A team that made an analysis of Anne’s route and a team that looked at where the cameras were, requested the images and coordinated this with the police. In addition, I did the contacts with media, authorities and police.’ (Faber in Van Dorp, 2018, pp. 12-14). During the first week, this research made it a little clearer which bike route Anne could have taken and other routes could be eliminated (Van Duin, Bakker & Wijkhuijs, 2018, p. 240).

The embrace of citizen participation by the investigation team of the police became inevitable. A mutual dependency emerged since both actors have certain resources as expertise and support. The network involved in the search of Anne Faber is pluriform consisted of a vary of actors with each its own specific knowledge and resources. Because of the complexity and scope of the search for Anne Faber, at the end of the first week the district approach was scaled up to a Large Scale and Special Operations Team (in Dutch: *Staf Grootschalig- en Bijzonder Optreden*, SGBBO). Cooperation with *crisisteam-Faber* is hereby explicitly included as an objective (Lam, Kop & Plancken, 2019). The open approach to citizen initiatives is thereby

emphasized. Ultimately, crisisteam-Faber in collaboration with the police coordinate a large search that lasted thirteen days.

Common perception

During the thirteen-day search for Anne, the police and crisisteam-Faber always had a common goal: to find Anne and to find out who is involved in her missing (Landelijke Eenheid Politie, 2018b; NOS, 2017a). Remmert de Wit, a friend of Anne's father, a teacher at the police academy and involved in crisisteam-Faber, states that he has never seen so many people work together for hours so passionately for a common goal (De Wit in K. Bos, 2018). The police and crisisteam-Faber jointly agreed on the issue to be solved.

At the beginning of the search, it was unclear which of the two parties would take the lead. Initially, the police determined that the family should be in charge and that the police should play a supporting role (Lam, Kop & Plancken, 2019). Through the conversation between Ad Sanders and the Faber family on October 5, it became clear that the family needed more coordination from the police (Faber in Van Dorp, 2018, p. 14; Lam, Kop & Plancken, 2019). As a result, the police took a clear(er) coordinating role of the searches. Through the conversation between Ad Sanders and the Faber family, an attempt is made to relate the perceptions and perspectives of the actors involved.

Shared practice

In order to solve the case and to find Anne, the police and crisisteam-Faber jointly agree from about day five on the joint initiatives that needs to be undertaken to find Anne. It involved a more or less institutionalized cooperation between the police on the one hand and crisisteam-Faber on the other. From day five after the disappearance, Ad Sanders frequently coordinated with Hans Faber on a variety of issues (Van Duin, Bakker & Wijkhuijs, 2018, p. 237). The cooperation between crisisteam-Faber and the police meant a far-reaching relationship in the context of investigative activities and crisis communication (Van Duin, Bakker & Wijkhuijs, 2018, p. 237). Officers sat at the crisisteam-Faber's meeting table each morning in order to know what the team was going to do and to anticipate on it (Faber, 2019, p. 6).

The gradually closer cooperation allowed agreements to be made between the two actors (Van Duin, Bakker & Wijkhuijs, 2018, p. 244). Research from the police academy shows that the police quickly made clear agreements with the citizens (Lam & Kop, 2020, p. 36). The agreements included when and in what way the citizens were allowed to perform investigative actions. If a search was set up by crisisteam-Faber, coordination with the police took place

(Landelijke Eenheid Politie, 2018b; Van Duin, Bakker & Wijkhuijs, 2018, p. 235). The police participate in searches, bring structure to the search, and record the findings in order to share them with the investigation team (Landelijke Eenheid Politie, 2018b). Every object found and every tip that can possibly be connected to Anne or her missing is investigated by the police (Van Duin, Bakker & Wijkhuijs, 2018, p. 235). In order to find new leads to determine how and where to continue the search, camera footage is requested, collected and analyzed by both the police and crisisteam-Faber (Van Duin, Bakker & Wijkhuijs, 2018, p. 235; Faber in Van Dorp, 2018, p. 12). In this way, the actors involved jointly agree on the joint initiatives that were undertaken and knew what each role in these actions could be.

Mutual benefit

The interest of both the police and crisisteam-Faber is to find Anne Faber. These interests are intertwined with each other. This common interest is hard to achieve independently. Crisisteam-Faber depends on the police because the search area became too large and complex for the team. Crisisteam-Faber was in need of a coordinating role from the police in continuing the search for Anne Faber (Faber in Van Dorp, 2018, p. 14). Conversely, crisisteam-Faber offers a lot of potential expertise and knowledge that can be useful in the search. To solve a missing person case, the police may benefit from having more eyes, ears, and hands available (Lam & Kop, 2020, p. 43). The possibility to gain mutual benefit causes the police and crisisteam-Faber, based on a common interest in finding Anne Faber, to cooperate with each other.

iii. The effectiveness of the investigation

Having indicated that the police and the crisisteam-Faber coproduced during the search for Anne Faber, it is now possible to assess the extent to which the investigation was effective. In order to determine whether the investigation of the search for Anne has been effective, there needs to be looked at the six indicators for effective investigation of a missing person. Each indicator will be elaborated in this section, beginning with information gathering and estimation, followed by an investigative approach, commitment to the search, communication about the case, tactical detection and forensic detection.

Information gathering and estimation

The first hours after a person goes missing count. In order to properly assess a missing person case, it is important to gather as much information as possible. Estimating the urgency of the missing person case is crucial because the rest of the research will be based on this (Van Leiden

& Hardeman, 2015, p. 126). Therefore, the following are considered as important when it comes to information gathering and estimation: the report and the person reporting are considered as important sources of information, there have been continue asked questions and made records, there has been actively collected stories from witnesses and people left behind, an extensive (social) background research is conducted, the location where the missing person was last seen is considered as a possible crime scene and the belongings of the missing person are investigated.

The mother of Anne Faber reported her missing around 1:00 am on the night of 29-30 September (Lam & Kop, 2020, p. 15). The mother indicates that not answering her messages on WhatsApp is odd for Anne (Lam & Kop, 2020, p. 15). Anne is estimated as a person with a great sense of responsibility following the report (Schouten & Tijmstra, 2018; Landelijke Eenheid Politie, 2018a). The police assess the disappearance as urgent and immediately investigate the location of her last taken selfie that she sent to her boyfriend via WhatsApp. This turns out to be the intersection of Hilversumsestraatweg and Amsterdamsesstraatweg in Baarn (Landelijke Eenheid Politie, 2018c).

A detective team was assembled to conduct interviews with acquaintances of Anne Faber and witnesses who believe to have seen her (Van Duin, Bakker & Wijkhuijs, 2018, p. 234; Landelijke Eenheid Politie, 2018a). The polices continued to collect stories from people left behind to conduct an extensive (social) background research. From research and stories among the family and acquaintances of Anne, a picture emerges of someone with a great sense of responsibility (Landelijke Eenheid Politie, 2018a). In addition, the interviews with the people close to Anne reveal that there were no signs of circumstances that indicated that Anne Faber would want to disappear for a while (Landelijke Eenheid Politie, 2018a). Not only friends and family were being interviewed, information was also collected from witnesses. For example, in response to the arrest of Micheal P., a witness came forward. The witness is heard and, based on information from the statement, an investigation is designated at a place in Zeewolde which the witness and Micheal P. used to frequently visit. The police searched the place but did not find anything (Lam & Kop, 2020, p. 27).

The location Baarn, where Anne is last seen on her selfie, is the starting point of the search for both the police and crisisteam-Faber (Landelijke Eenheid Politie, 2018c; Faber in Van Dorp, 2018, p. 12). The police searched with a police helicopter in the vicinity of the intersection Hilversumsestraatweg and Amsterdamsesstraatweg in Baarn (Landelijke Eenheid Politie, 2018c). Meanwhile, her phone records are being investigated to get a clearer picture of where to search (Van Duin, Bakker & Wijkhuijs, 2018, p. 234). On Tuesday, October 3, after

consulting with the police, crisisteam-Faber begins searching for and viewing of camera footage at catering establishments, businesses, and private cameras on which Anne may be seen (Lam & Kop, 2020, p. 21). It becomes clear that Anne can be last seen on camera footage of café Vuur on Hilversumsestraatweg in Baarn (Lam & Kop, 2020, p. 21). Anne Faber's phone records meanwhile provide the suspicion that she cycled the ANWB route 115802 from Soest towards De Bilt (Landelijke Eenheid Politie, 2018d). Both caused the search area to be widened. After suspect Micheal P. provided information about the location of Anne Faber's body on October 11, an area was cordoned off in Zeewolde for trace evidence (Landelijke Eenheid Politie, 2018a, Landelijke Eenheid Politie, 2018b). On October 12, this led to the finding of the body of Anne Faber (Landelijke Eenheid Politie, 2018b).

In order to put out a description of Anne Faber, it was necessary to search her belongings. Together with the boyfriend, it became clear what Anne Faber was wearing during her bike ride (Van Duin, Bakker & Wijkhuijs, 2018, p. 234; Lam & Kop, 2020, p. 17).

In conclusion, the report and the person reporting, in this case the mother of Anne, are considered as important source of information to start the investigation. The police continuously interviewed witnesses and people left behind. With this, a (social) background analysis was conducted. The location where Anne Faber was last seen changed over time due to newly obtained information, nevertheless these locations have been continuously considered as new possible crime scenes. Furthermore, the belongings of Anne have been searched.

An investigative approach to the case

With the knowledge that the start of an investigation is important (Cameron, 1990, pp. 487-490), the approach of a missing person investigation is important since it partly determines what is or can be undertaken. For this, the police need to look at the case from an investigative perspective and there needs to be searched for leads for deployment of investigative means.

The police viewed the case from an investigative perspective from the first moment after Anne was reported missing. Following the report of the disappearance, an investigation is launched into the location of Anne's last taken selfie and it is found that there are no indications that Anne Faber deliberately wanted to disappear (Van Duin, Bakker & Wijkhuijs, 2018, p. 234). When Anne Faber does not show up at an appointment in Amsterdam that Saturday, the police spreads an alert, a detective team is assembled and a first investigation starts in the place of her last selfie Baarn (Van Duin, Bakker & Wijkhuijs, 2018, p. 234; Landelijke Eenheid Politie, 2018c). In the following days, both the search for Anne Faber and the search for a possible suspect were scaled up (Lam & Kop, 2020, p. 7).

Throughout the weekend, searches take place in Baarn, in the area of the location where Anne made her selfie, without any results (Landelijke Eenheid Politie, 2018a). The days-long search leads to a first result on Tuesday, October 3 when Anne's coat is found by two of her friends (Van Duin, Bakker & Wijkhuijs, 2018, p. 235; Lam & Kop, 2020, p. 22). The finding of the raincoat made the area become a crime scene and the investigation is scaled up to a TGO (Lam, Kop & Plancken, 2019). The coat is a lead for the deployment of investigative resources. The jacket is sent to the NFI for DNA testing (Landelijke Eenheid Politie, 2018b; Van Deurzen, 2019).

In conclusion, from the moment Anne is reported missing, the case was approached from an investigative perspective. In doing so, the police searched for leads for deployment of investigative means. In finding the coat, police were able to deploy investigative means.

Commitment to the search

To assess the commitment to the search, it is examined whether the investigation is started as soon as possible, if there were short lines of communication within the police, if the case is scaled up in time from police officers to criminal investigation department, if there was sufficient capacity and quality present and if certain knowledge is not available within the team, internal and external expertise is brought in.

As mentioned before, the investigation started directly after the mother of Anne reported her missing on the night of 29-30 September to a police officer at the police station in the Kroonstraat in Utrecht (Lam & Kop, 2020, p. 15). Immediately after it becomes known that Anne did not show up at her appointment in Amsterdam that Saturday, September 30, the missing persons case is transferred from police officers to the criminal investigation department in the district of Utrecht-Stad (Landelijke Eenheid Politie, 2018c; Lam & Kop, 2020, p. 15). The police spread an alert, a detective team is assembled, and a first investigation starts in the place of her last selfie Baarn (NOS, 2017a; Van Duin, Bakker & Wijkhuijs, 2018, p. 234). Eventually, the police scaled up to a TGO that focused on finding a possible suspect and a SGBO is established that is responsible for the search, the investigation, a good connection with citizens, and communication internally and externally (Lam & Kop, 2020, p. 7; Van Duin, Bakker & Wijkhuijs, 2018, p. 237).

After the SGBO takes effect on October 6, it establishes clear lines of communication. The basic principle for internal communication was that the information coming from the TGO general commander is first shared in a preliminary consultation with the two Heads of Investigation (in Dutch: *hoofd Opsporing*, HOps) and the general commander. When it is

determined that the information can be shared with others, it is done in the order: family, administration, colleagues and lastly media (Lam & Kop, 2020, p. 25, p. 37). The agreement on this short communication line between the general commander of the TGO and the HOPs ensured, among other things, that on October 11, out of sight of the press, police could be moved in an inconspicuous manner to the location designated by suspect Micheal P. (Lam & Kop, 2020, p. 27). The clear structure and division of roles allowed for more oversight and consistency and less miscommunication. In order to have close contact with crisisteam-Faber a liaison is appointed on October 2. The liaison is instructed to act as contact for the family and to support the family in the search (Lam & Kop, 2020, p. 19). The contact of the liaison with both crisisteam-Faber and the platoon commander and the addition of a second HOPs to the case, resulted in the lines of communication remaining relatively short (Lam & Kop, 2020, p. 94).

Sufficient capacity and quality were present during the search for Anne. The police made use of various internal expertise's and thereby deployed different police specialisms. A detective team with various types of investigators and analysts coordinates the missing person investigation. Family investigators form a permanent contact between the family and the criminal investigation department. Police digital experts examine the telecom data from Anne's phone. Forensic investigators secure traces, carry out trace research and have contact with the NFI (Landelijke Eenheid Politie, 2018c). Use is also made of the missing persons specialist who is part of the unit *Midden-Nederland*. However, in the first week, the specialist finds out that the TGO is too busy and there is no time or space to make use of the specialism and its network with other specialists (Lam & Kop, p. 73). In addition to the internal expertise, external expertise is brought in. There is specialist support from Defense in where and how to search. Police officers working in the ME and different types of police detection dogs assist in searches (Landelijke Eenheid Politie, 2018c; Lam & Kop, 2020, p. 26). If necessary, the police call in volunteers from the Red Cross, veterans or the fire department (Landelijke Eenheid Politie, 2018c). In addition, the previously mentioned network of expertise of crisisteam-Faber is available. The police worked closely with crisisteam-Faber during the search operations (Landelijke Eenheid Politie, 2018c; Van Duin, Bakker & Wijkhuijs, 2018, p. 237). The collaboration intensified during the search for Anne Faber. At the height of the collaboration, officers and detective leaders came to crisisteam-Faber's headquarters to update themselves on the progress of their work (Faber, 2019, p. 6). Although the knowledge and expertise of crisisteam-Faber was not actively sought, the information provided by the team was taken seriously and examined (Lam & Kop, 2020, p. 47). However, it was noted afterwards by those

involved that more use could have been made of the available knowledge and expertise of crisisteam-Faber (Lam & Kop, 2020, p. 49).

It can be concluded that the investigation was started as soon as possible, and the case was scaled up in time from police officers to criminal investigation department. Due to the SGBO, the lines of communication were relatively short as of October 6. Sufficient capacity and quality were present and internal and external expertise is brought in. However, there could have been made more use of the available knowledge and expertise of crisisteam-Faber.

Communication about the case

In order to find the missing person, it is useful to involve as many eyes and ears as possible. Communicating about the missing person to citizens but also within the police organization is therefore important (Van Leiden & Hardeman, 2015, p. 142). In order to assess the communication about the case, there will be looked into the use of media, the active and creative involvement of citizens, the preparation for information flows, the awareness of unreliable informants, the informing of those left behind and publicizing the case within the police organisation.

The police made use of the media several times during the period that Anne was missing. In this case, the media unit of the department *Midden-Nederland* played an active role in communication. Every day there was an extensive update in the online dossier on *politie.nl* (Heijmans, 2017; Landelijke Eenheid Politie, 2018b), a press release was sent out almost daily (Landelijke Eenheid Politie, 2018b), the program *Opsporing Verzocht* was used twice (Van Duin, Bakker & Wijkhuijs, 2018, p. 235; NOS, 2017b), a seat was taken on talk shows such as *Pauw* (Lam & Kop, 2020, p. 21) and a police spokesperson gave regular updates to the media (Omroep Gelderland, 2017a, NOS, 2017; RTV Utrecht, 2017).

To determine whether the police actively and creatively engaged citizens, it is important to distinguish between crisisteam-Faber and the general public. First, the involvement of the general public is determined. The police chose to use an active communication strategy, whereby much was shared with the general public through the various channels (Lam & Kop, 2020, p. 91; Van Duin, Bakker & Wijkhuijs, 2018, p. 240). In this way, the police could largely determine which information was shared through (social) media and incorrect information could be quickly corrected. The police actively involved citizens in the investigation. Not only by providing information on the progress of the investigation, but also asking for information the police needed from citizens, such as camera images, and coordinating support from volunteers (Landelijke Eenheid Politie, 2018a; 2018b; 2018c; Lam & Kop, 2020, p. 91). As the

media unit was in close contact with both the TGO and the SGB0, it was possible to request specific information from the public (Lam & Kop, 2020, p. 67). The police called on people who intended to organize a search to consult with the police so that agreements could be made about how to act in the event that remarkable objects and/or traces were found (Landelijke Eenheid Politie, 2018b). From October 7, the police announced through media that the support of the general public was appreciated but that the police did not need additional support in the search areas (Omroep Gelderland, 2017a; NOS, 2017; Landelijke Eenheid Politie, 2018b).

Second, the involvement of crisisteam-Faber is determined. From the beginning, there was contact between crisisteam-Faber and the police. For example, the police helped with the searches, family investigators had been deployed as well as the liaison (Van Duin, Bakker & Wijkhuijs, 2018, p. 240). The gradually closer cooperation allowed for agreements to be made between the police and crisisteam-Faber (Van Duin, Bakker & Wijkhuijs, 2018, pp. 243-244). Due to mutual trust, more information was shared with the family than is usual in similar cases (Lam & Kop, 2020, p. 81). In addition, an SGB0 involved person explains "I went there pretty much every other day. A lot of different topics were exchanged between family and police, 'small things', but very important. And that did get crucial." (Lam & Kop, 2020, p. 53). Both the liaison and the family investigators were impressed with the way the family organized themselves, searched and analysed information and felt the team was not being heard enough (Lam & Kop, 2020, p. 49). Both emphasized the importance for the TGO to visit the family once (Faber in Van Dorp, 2018, p. 13; Lam & Kop, 2020, pp. 25-26). This happened on Saturday, October 5 at the fire station in Zeist, where crisisteam-Faber gave a presentation about her findings. Afterwards, the police stated that the opportunities offered by joining crisisteam-Faber were not sufficiently used (Lam & Kop, 2020, p. 49). A person involved in the search described it as "The searches went well, but we really should have been at the civilian search center in Zeist. Next time you need to arrange that better and put someone from intelligence or tactics there." (Lam & Kop, 2020, p. 49).

Throughout the search for Anne, the police are in close contact with crisisteam-Faber to inform the family if necessary. Through family detectives, the executive district chief of police Ad Sanders, a spokesperson from the media unit and the liaison officer there is contact with the family (Lam & Kop, 2020, pp. 20, 60-63). The police used the principle of informing the family first before releasing information to the outside world (Landelijke Eenheid Politie, 2018c). On October 5, this agreement with Anne's family is confirmed through the conversation with Ad Sanders. Fundamental news will be reported to the family personally, before it is shared with administrators, colleagues and the media (Van Duin, Bakker & Wijkhuijs, 2018, p. 245; Lam

& Kop, 2020, p. 23). For example, on October 6, the family investigator calls Anne Faber's mother to report that Anne has not been found in the pond (Van Deurzen, 2019), on October 9, Ad Sanders announces to the family 10 minutes after the arrest that a suspect has been arrested on suspicion of involvement in the disappearance of Anne (NRC Handelsblad, 2019), and on October 12, Ad Sanders first comes to the family before reporting to other directors, colleagues and the media that the body of Anne has been found (Van Duin, Bakker & Wijkhuijs, 2018, p. 245).

The police estimate the number of tips at 3000 to 4000. A tip process was set up by the detection department in the first phase of the case. However, the detection department was not equipped to handle such amounts of tips properly. Therefore, in the first few days, a tip process was set up separately from the detection and assigned to the tactical investigation and intelligence. This group was fully occupied with processing, following up on and prioritizing all tips (Lam & Kop, 2020, p. 66; Landelijke Eenheid Politie, 2018b). Not only did the quantity of tips pose a challenge to the investigation, the diversity of channels through which the information came in was also challenging. A mailbox was opened where all information could come in. However, it took several days before this mailbox was widely known and was actually used practically (Lam & Kop, 2020, p. 66).

With the amount of information coming in, the police needed to be constantly wary of unreliable information. The police valued the information provided by citizens by not only looking at what the citizen provided, but also checking, and where necessary having a conversation on how the citizen had come to information and/or findings (Lam & Kop, 2020, pp. 83, 95). An example of this is the cartographer who posted a message on Facebook on October 6 explaining why the police search was focused on the wrong location (Lam & Kop, 2020, p. 83). The cartographer's story is convincing and plausible, however, it was not correct (NOS, 2017b; Schraevende, 2017; Lam & Kop, 2020, p. 83). Another example showing that the police are wary of unreliable informants is the following. The Facebook message posted by Anne's boyfriend the day after she went missing raised questions among the police since it level of detail (Lam & Kop, 2020, p. 17). Police took into account that the boyfriend had something to do with the disappearance. After verification, this turned out not to be the case (Lam & Kop, 2020, p. 17).

Due to the large media attention, the police did not have to put effort in widely publicize the missing person's case themselves within the police organization. The message that the boyfriend of Anne Faber posted on Facebook the day after she went missing caused major media attention (Van Duin, Bakker & Wijkhuijs, 2018, p. 234). The enormous media attention

also resulted in many reactions from police officers from all over the country who sought contact with involved police officers and offered to help in the search for Anne (Lam & Kop, 2020, p. 39).

In conclusion, the media has been used in various ways that have actively involved the general public in the investigation. Crisisteam-Faber has also been creatively involved in the search for Anne. The family has been properly informed throughout the investigation. By means of the tip process, it was possible to anticipate the flows of information. The police were aware of unreliable informants. The police did not have to put effort in widely publicize the missing person's case within the police organization due to the massive media attention.

Tactical detection

The tactical search for missing persons focuses on finding out the whereabouts of the missing person and the reason for the disappearance. In order to evaluate the tactical detection during the search for Anne there is examined whether the police kept all scenarios open, had a focus on means of transportation and movement, and tactically capitalized on weaknesses of the suspect.

From the beginning, the police took different scenarios into account (Landelijke Eenheid Politie, 2018b). In the beginning, the police had to take into account the scenario that someone from crisisteam-Faber could be involved in the disappearance of Anne. In order to rule out this scenario, Anne's boyfriend and family members were the subject of the criminal investigation (Van Duin, Bakker & Wijkhuijs, 2018, pp. 241-242). By the time the police and the crisisteam-Faber closely worked together this scenario was ruled out (Van Duin, Bakker & Wijkhuijs, 2018, pp. 241-242). October 2 and October 4, spokesman Bernhard Jens emphasized that all scenarios are taken into account (Omroep Gelderland, 2017b, Misérus, 2017). Jens notes that some scenarios are more credible than others (Misérus, 2017). There are no indications that Anne would be suicidal. Anne may have become unwell or an accident as a result of the bad weather is also not excluded. However, these scenarios did not seem likely since her bicycle was not yet been found. There are no indications of a crime either, but the scenario is taken into account (Omroep Gelderland, 2017b; Jens in Misérus, 2017). From the moment Anne's coat is found on October 3, the scenario of a crime is seriously taken into account. However, it is not yet excluded that Anne is no longer alive (Lam & Kop, 2020, p. 22; Van Deurzen, 2019). When a suspect comes into view on October 8, a number of possible scenarios are discussed and a strategy is determined to apprehend the suspect (Lam & Kop, 2020, p. 26). The police take into account the possibility that the suspect could lead the investigation team to the place where

Anne is held or hidden. For this reason, it is chosen to closely monitor him for observation (NOS, 2017c; Landelijke Eenheid Politie, 2018b; Lam & Kop, 2020, p. 26). The next day, the suspect was arrested on suspicion of involvement in the disappearance of Anne Faber (Onderzoeksraad voor Veiligheid, 2019, p. 47). On October 10, the police set up fences and excavators near a clinic in Den Dolder where the suspect was staying, in case these are going to be needed during the investigation by the clinic (Landelijke Eenheid Politie, 2018b). Based on the possible scenario that Micheal P. went to a place known to him, on October 11, police go together with a witness who knows Micheal P. from the past to a place in Zeewolde (Lam & Kop, 2020, p. 27). On 12 October the body of Anne Faber was found by clues provided by Micheal P.

It was known that Anne was on a bicycle tour. Part of the investigation therefore focused on her possible cycling route. Camera footage was collected by crisisteam-Faber in order to reconstruct her route (Van Dorp, 2018, p. 12; Van Duin, Bakker & Wijkhuijs, 2018, p. 240). On 1 Sunday, October, the police put out a request to citizens with a security camera in the area of Baarn, Soest, Hilversum, De Bilt or Lage en Hoge Vuursche to watch the footage from 29 September from 19:00 to 20:30 and to report if something striking is seen (Landelijke Eenheid Politie, 2018b). In addition, on the same day, officers on motorcycles and bicycles search the paths where Anne may have cycled (Landelijke Eenheid Politie, 2018c). A day later, police and crisisteam-Faber search jointly in various areas where Anne is likely to have passed. This continues throughout the days that follow (Van Duin, Bakker & Wijkhuijs, 2018, p. 234). After the investigation into Anne's phone records is completed on October 3, it appears that Anne cycled the ANWB route 115802 from Soest towards De Bilt. Once again, an appeal is made to anyone who has camera footage on this route (Landelijke Eenheid Politie, 2018b). On October 5, Anne Faber's bicycle is found in a pond near Huis ter Heide (Landelijke Eenheid Politie, 2018b; Van Duin, Bakker & Wijkhuijs, 2018, p. 235). After a suspect has come into sight, the focus of the investigation shifts to the movements made by the suspect from the moment Anne went missing on Friday 29 September. These are closely scrutinized (Landelijke Eenheid Politie, 2018b). Furthermore, it was investigated whether the suspect made use of his mother's car in which several witnesses saw him drive (NOS, 2017a).

After the suspect is arrested, the police tactically capitalize on the weakness of the suspect to find out the whereabouts of Anne. A detention guard who knows Michael P. from the time they both lived in Zeewolde approaches Michael P. in his cell with a hidden microphone (Van Deurzen, 2019; NRC Handelsblad, 2019). Michael P. is convinced by the agent to reveal the location where Anne can be found (Van Deurzen, 2019; NRC Handelsblad,

2019). On October 11, late in the evening, Michael P. gives the police information about the place where Anne can be found (NOS, 2017a; Onderzoeksraad voor Veiligheid, 2019, p. 20). The police indicate that the grave would never have been found if Michael P. had not told the location (Van Deurzen, 2019).

In conclusion, the police kept all possible scenarios in mind during the investigation. Attention was paid to transportation and movement by examining the route that Anne had taken and by examining the movements of the suspect. After the suspect was arrested, the police tactically capitalized on the suspect's weakness to find out Anne's whereabouts.

Forensic detection

Forensic investigation looks for traces that can tell the story of the missing person. These can be technical traces but also biological traces (Van Leiden & Hardeman, 2015, p. 152). In order to evaluate the forensic detection during the search for Anne Faber there is examined whether the possibilities for technical investigation are optimally exploited, the DNA of Anne Faber is secured as quickly as possible, violate data and goods are immediately safe and if the search is carried out by the right resources.

The forensic service was called in several times for technical investigation. If an object was found, it was secured and the forensic service was called in. This happened when the coat, the bicycle, the backpack and other goods were found (Landelijke Eenheid Politie, 2018b). The coat was sent to the NFI for DNA testing (Landelijke Eenheid Politie, 2018b; Van Duin, Bakker & Wijkhuijs, 2018, p. 235; Lam & Kop, 2020, p. 22). The initial findings from the NFI investigation confirmed on 5 October that the coat belonged to Anne, this confirmation could be made on the basis of the previously obtained DNA of Anne Faber (Landelijke Eenheid Politie, 2018b). In the lab, the investigators found that the sleeves of the coat had been turned inside out. This made it possible to discover a minimal amount of cell material on a piece of folded textile, which led to a matching DNA in the database (Van Deurzen, 2019; NRC Handelsblad, 2019). In doing so, the NFI utilized the optimal possibilities of technical investigation. On 5 October a bicycle that almost certainly belonged to Anne Faber is found in a pond. The bicycle is examined and the pond is drained in order to be able to investigate traces in the mud left behind (NOS, 2017b; Van Duin, Bakker & Wijkhuijs, 2018, p. 235; Landelijke Eenheid Politie, 2018b). On October 9, after the arrest of the suspect, his home is searched for traces by specialists from the forensic investigation (Landelijke Eenheid Politie, 2018b). On October 12, the forensic investigators were deployed for a careful search to find Anne and secure traces at the designated location by the suspect (Landelijke Eenheid Politie, 2018c).

Lastly, the possibilities of technical investigation were optimally used during the interrogation of the suspect. Here, use was made of a hidden microphone which allowed the undercover unit to listen in on the conversation between the officer and the suspect (Van Deurzen, 2019; NRC Handelsblad, 2019).

When it comes to volatile data and goods, camera footage played an important role during the search for Anne. During the first few days it was unclear to crisisteam-Faber whether the team was allowed to collect camera footage (Faber in Van Dorp, p. 14). On 3 October, a manual for citizens to collect camera footage is established (Lam & Kop, 2020, p. 21). From that moment, crisisteam-Faber searched for camera images (Van Duin, Bakker & Wijkhuijs, 2018, p. 235, 240). On October 3, the police also started a call to citizens with cameras who live in the vicinity of the ANWB route 115802 between Soest and De Bilt to watch the footage between 19:00 and 20:30 (Landelijke Eenheid Politie, 2018b).

During the search for Anne the liaison is the first point of contact for crisisteam-Faber and gives advice and instructions to conduct the search by right means (Lam & Kop, 2020, p. 63). Among other things, the liaison officer makes an action plan with the crisisteam-Faber regarding the searches and links colleagues to the people who will be searching. The liaison gives crisisteam-Faber instructions on the correct way to act in case civilians find traces (Lam & Kop, 2020, pp. 19-20). On October 3, these clear instructions ensured that the finding of the coat went as instructed. This allowed the jacket to be secured with care for trace evidence and a few days later, based on this finding, DNA material of the possible perpetrator was determined and Michael P. could be arrested (Landelijke Eenheid Politie, 2018b; Van Duin, Bakker & Wijkhuijs, 2018, p. 241; Van Deurzen 2019). The area was combed again by the ME after the trace search to make sure nothing was overlooked (Landelijke Eenheid Politie, 2018b). In the days that followed, the ME led the search of crisisteam-Faber (Lam & Kop, 2020, p. 65; Penris, 2017).

In conclusion, it can be said that the possibilities of technical investigation have been optimally used. Through the timely secured DNA from Anne, it could be determined that the coat was hers. Crisisteam-Faber and police have not been storing camera footage from day one. However, no images were lost due to the slightly slow start. The search was conducted using the right resources, partly due to the close contact between the liaison and crisisteam-Faber.

iv. Conclusion of the case

Level of coproduction

In the beginning of the search for Anne Faber, it was unclear which of the two parties would take the lead. In order to solve the case and to find Anne, the police and crisisteam-Faber jointly agreed from about day five on the joint initiatives that needed to be undertaken to find Anne. Crisisteam-Faber depended on the police because the search area became too large and complex for the team. The team was in need of a coordinating role from the police in continuing the search for Anne (Faber in Van Dorp, 2018, p. 14). Conversely, crisisteam-Faber offers a lot of potential expertise and knowledge that can be useful in the search. The mutual dependence caused the police and crisisteam-Faber to cooperate with each other. The cooperation involved a more or less institutionalized cooperation between the police on the one hand and crisisteam-Faber on the other. It meant a far-reaching relationship in the context of investigative activities and crisis communication. The gradually closer cooperation allowed agreements to be made between the two parties. Research from the police academy showed that the police quickly made clear agreements with the citizens (Lam & Kop, 2020, p. 36). With this, it can be concluded that the coproduction between the police and crisisteam-Faber involved a far-reaching cooperation.

Level of effectiveness

To determine the level of effectiveness, the six indicators of effective investigation into missing persons must be considered. When it comes to the indicators information gathering and estimation, the investigative approach to the case, the communication about the case, the tactical detection, and the forensic detection the investigation into the missing of Anne Faber has been effective. Regarding the indicator commitment to the case, there is a learning point for similar cases in the future. Therefore, this indicator will be addressed last.

First, the information gathering and estimation. The report and the person reporting, in this case the mother of Anne, were considered as an important source of information to start the investigation. The police continuously interviewed witnesses and people left behind. With this, a (social) background analysis was conducted. The location where Anne Faber was last seen changed over time due to newly obtained information, nevertheless these locations have been continuously considered as new possible crime scenes. Furthermore, the belongings of Anne have been searched. In this respect, the information gathering and estimation during the search for Anne Faber can be labeled as effective.

Secondly, regarding the investigative approach to the case, the investigation has been effective because from the moment it was known that Anne was missing, the case was approached from an investigative perspective and leads were sought for the deployment of investigative means. Therefore, the indicator investigative approach can be labeled as effective.

Thirdly, the communication about the case. There was massive media coverage of the case. This resulted in large information flows. The police were prepared for the information flows and alert to unreliable informants by using a tip process. The general public was actively involved since the police chose to apply an active communication strategy through a media unit. This strategy was focused on not only providing information on the progress of the investigation, but also asking for information the police needed from citizens. In the same time the media was used to coordinate the support from citizens by repeatedly stating that the support of the general public was appreciated, but not needed in the search areas. The close contact between crisisteam-Faber and the police ensured that this team was actively and creatively involved in the search. In addition, those left behind were properly informed during the searches. Therefore, it can be stated that the communication about the case have been effective.

Fourthly, regarding the tactical detection, it can be mentioned that all scenarios were taken into account and there was a focus on means of transport and movement. In addition, the police tactically capitalized on the suspect's weakness to find out Anne's whereabouts. Therefore, the tactical detection has been effective during the search for Anne.

Fifth, the forensic investigation can also be described as effective, because the possibilities for technical investigation have been optimally exploited, the DNA of Anne was secured, volatile data and goods were secured in time and the search was carried out by the right resources. These last two factors were made possible by the close contact between the liaison and crisisteam-Faber.

Lastly, the commitment to the case. This indicator can be labelled as effective, yet there is a learning point to mention. The investigation started as soon as possible, short lines of communication were present, the cases have been transferred to the criminal investigation department in time, sufficient capacity and quality were present and internal and external expertise is brought in. Although there was sufficient capacity and quality, and internal and external expertise was brought in, more use could have been made of the available knowledge and expertise that crisisteam-Faber had to offer. This can be taken as a learning point if the same type of case and situation arises in the future.

In overall terms, it can be concluded that a high degree of effectiveness was present during the case of Anne Faber.

Lessons learned about the link between coproduction and effectiveness

There are a number of observations to be made in this case about the link between coproduction and the effectiveness of the investigation of the missing Anne Faber. In this case, the far-reaching coproduction resulted in positive consequences for the effectiveness of the investigation into the missing of Anne Faber. The close contact between crisisteam-Faber and the police ensured that this team was actively and creatively involved in the search. This allowed for mutual use of knowledge and expertise that were present in both teams, information could be shared between both parties and it allowed for agreements to be made between the police and crisisteam-Faber. The close contact between the police and crisisteam-Faber enabled advice and instructions to be given to the volunteers of crisisteam-Faber to ensure that the search was carried out with the right means and in the right way. Partly due to the close contact between the liaison and crisisteam-Faber volatile data and goods were secured in time and in the right way and the search was carried out by the right resources.

As mentioned earlier, the opportunities offered by joining crisisteam-Faber were not sufficiently used. The information provided by crisisteam-Faber was taken seriously and examined, yet the knowledge and expertise of the team was not actively sought by the police (Lam & Kop, 2020, p. 47). A person involved in the search described it as "The searches went well, but we really should have been at the civilian search center in Zeist. Next time you need to arrange that better and put someone from intelligence or tactics there." (Lam & Kop, 2020, p. 49). Although there was sufficient capacity and quality, and internal and external expertise was brought in, more use could have been made of the available knowledge and expertise that crisisteam-Faber had to offer. This can be taken as a learning point for any future missing persons case involving close coproduction.

III. Comparison of cases

Now that both cases have been analysed on the link of coproduction on the effectiveness of the investigation, the cases can be compared on similarities and/or differences. Since there is a difference between the two cases in the degree of coproduction that has taken place, it is difficult to make a connection between the two cases. Within the comparison of the two cases, the contextual difference of the degree of coproduction should be taken into account. However, what can be stated is that the investigation into the disappearance of Ruben and Julian has been less effective than the investigation into the disappearance of Anne Faber. The observations that can be made about this as follows.

From comparing the findings from both cases, it has become clear that there are similarities and differences in effectiveness to note between the cases. Both cases have been effective when it comes to the information gathering and estimation, the investigative approach to the search and the tactical detection. In the case of Ruben and Julian, there are lessons to be learned in the link between coproduction and the effectiveness of the investigation when it comes to the commitment, communication and forensic detection. Within these three indicators there have been negative effects on the effectiveness of the investigation. In the case of Anne Faber, however, mainly positive effects between coproduction and the effectiveness of the investigation have been demonstrated.

In order to determine how coproduction between the police and citizens can contribute to the effectiveness of the search for missing persons, the factors in which the cases have not been successfully effective should be further examined. The factors where effectiveness is observed as not optimal, and where also the biggest differences between the cases of Ruben and Julian and Anne Faber lie, are the factors commitment, communication and forensic detection. In these areas, terrain can be gained for the police to increase the effectiveness of the search for missing persons.

First of all, the commitment to the case. In the case of Ruben and Julian the police were not able to support all searches set up by citizens. As mentioned in the theoretical framework, it is important to have sufficient capacity present in the team. Having enough capacity eliminates the need to make choices between important tasks to be performed (Van Leiden & Hardeman, 2015a, pp. 140-141). In the case of Anne Faber, the great interest and urge to help from the citizens was kept under control by means of the deployment of sufficient capacity and through the active communication strategy. Control was ensured by informing the citizens on the progress of the investigation and asking for their help in contributing tips and information and at the same time using the media to coordinate the support from volunteers by repeatedly stating that the support of the general public was appreciated, but not needed in the search areas.

Second, the communication about the case. As mentioned in the theoretical framework, it is important to actively involve citizens in the case. The active involvement of citizens through the media in a missing persons case is a success factor within the investigation practice since recovering the victim may depend on help from the public (Van Leiden & Hardeman 2015a, p. 142; Jeanis & Powers, 2017, p. 667). By the initiators of the organized searches in the case of Ruben and Julian, there was frustration about the closed communication approach of the police to the public. Indignation was repeatedly expressed about police communication and questions were raised about why information was not shared with citizens more quickly.

This resulted, among other things, in citizens not being able to check their garbage for items that were wanted by the police because this garbage had already been picked up when the police brought out the news. In doing so, it was not taken into account that garbage belongs to volatile goods. In the case of Anne Faber, on the other hand, the active communication strategy was chosen, as a result of which the public was kept informed on a daily basis of the information that was required from the wider public. In addition, the police were in close contact with *crisisteam-Faber*, allowing information to be shared quickly and easily between the parties.

Third, the forensic detection. In the case of Ruben and Julian, the right resources were not always used during the search. As mentioned in the theoretical framework, it is important to conduct the search by carrying out the right resources. Characteristic of cases in which someone is missing is that many searches are set up. However, a search only makes sense if it is well prepared and all necessary resources are available to the team (Van Leiden & Hardeman, 2015a, p. 155). In the case of Ruben and Julian, the organized citizens got instructed. However, because the police had no control over the large number of people who wanted to help in the search, searches were also organized outside the organized network of citizens and the police. The people who participated in the unorganized searches were not instructed beforehand how to deal with traces and did not experience any support from the police. In addition, in the organized searches civilians have searched with sticks instead of the proper material the pros and there was not always a detailed map available. In the case of Anne Faber, the search was carried out with the right means, which was made possible by the close contact between the parties carrying out the searches. The close contact between the police and *crisisteam-Faber* enabled advice and instructions to be given to citizens to ensure that the search was carried out with the right means and in the right way.

5. Conclusion

I. Main conclusion

The research aimed to analyze how coproduction between the police and the citizens can contribute to the effectiveness of search for missing persons, based on a comparative case study between the missing of Ruben and Julian in 2013 and the missing of Anne Faber in 2017. This was done in light of the unexplored contribution of coproduction between police and citizens in the time of the search for a missing person. Comparing the effectiveness of the search for Ruben and Julian to the effectiveness of the search for Anne Faber, shed light on the impact of coproduction during the search for missing persons since it reveals similarities and differences between the two cases.

The factors in which the cases showed similarities in the effectiveness are the factors information gathering and estimation, the investigative approach to the search and the tactical detection. The factors where effectiveness was not optimal, and where also the biggest differences between the cases Ruben and Julian and Anne Faber lie, are the factors commitment, communication and forensic detection. In these areas, therefore, terrain can be gained for the police to increase the effectiveness of the search for missing persons. Learning from these differences between the cases it can be said that in the event that a missing persons case arises that attracts large-scale media attention and public assistance, as in the cases of Ruben and Julian and Anne Faber, it is important that the police observe the following. The police need to have sufficient capacity present in the team, need to communicate actively to the citizens and need to be in close contact between the parties carrying out the searches. This in order to regulate the citizens and to be sure that the search is performed by the right resources.

On the one hand, this research adds to the existing theory because the functioning of coproduction has been examined through the six factors, which has been posited to influence the effectiveness of investigations into missing persons, as discussed in the theoretical framework. These have been examined in the situation of two cases with similar events. The results confirm that when the six factors or a part of it are not met, the effectiveness of the research is lower than when the six factors are met. This can serve as an elaboration of the six factors of effective missing persons investigation.

On the other hand, the findings of this research provide new lessons for the specific situation of the search for a missing person. It can serve as a guidance for the police, as it shows the effects of coproducing with citizens and which factors the police should take into account when working closely together with citizens in this specific situation.

II. Limitations of the research

The external validity is the possibility to generalize findings and conclusions beyond the immediate case study (Bryman, 2016, p. 248). A common concern against case studies is that it provides little basis for generalization. This research is based upon a specific situation, the search for missing persons, which means that the generalisability of the study to a broader population is low; links with other types of investigations are difficult to make. In addition, this study is based on two Dutch cases, so the results of the study are less related to cases from other countries.

The reliability of a research refers to the degree of consistency with which the research can be repeated by others and when it produces consistent results (Hammersley, 1992, p. 67). Case studies will have low reliability since it is difficult to replicate the research due to interpretations and subjectivity. Since there are limits to the processing of information and the research is done alone, there can be observation bias. Reliability in this study may be undermined to some extent by the problem of bias in interpreting or analyzing the sources used. An attempt to increase the reliability of the study is by using multiple types of sources. By examining the same topic through multiple types of sources, the information can be put into perspective. This allows (apparent) contradictions to be better examined.

III. Future research

Finally, it would be informative to replicate this research with cases that have different investigative context. Instead of investigating the coproduction during an investigation of a missing person, the research can be performed on another kind of investigation such as a crime. Since the police cannot conduct investigation without the help from society, further research could focus on different kind of investigation performed by the police in coproduction with citizens. This research can then contain a broader variety of lessons on coproduction.

Subsequently, future research can include more cases of missing persons in order to make more extensive comparison between the cases. In this way, it can be examined whether the results will still lead to the same lessons learned or whether these cases gave too little specific value on exploring coproduction during the case for missing persons.

In addition, this research can be built upon and expanded by including cases from different countries and studying their results. In this study, the focus is only on the Netherlands, however, missing persons cases occur worldwide. In doing this, research can also go into the variations in different countries to learn from each other and to see whether there is a difference between countries or whether there is not.

References

- AD. (2013, December 21). 'Niemand pakt de regie bij vechtscheiding'. *AD*. Retrieved from <https://www.ad.nl/binnenland/niemand-pakt-de-regie-bij-vechtscheiding~a7bec169/>
- Alford, J. (2009). *Engaging public sector clients. From service-delivery to co-production*. Houndmills, Basingstoke, UK: Palgrave MacMillan.
- Arnstein, S. R. (1969). A Ladder of Citizen Participation. *Journal of the American Institute for Planners*, 35(4), 216-224.
- Baardewijk, J. van, & Hoogenboom, B. (2011). Opsporing en het belang van de burger. *Cahiers Politiestudies*, 19, 107-122.
- Bekkers, V. J. J. M. (1996). Coproductie in het milieubeleid: op zoek naar een nieuwe sturingsconceptie. *Bestuurswetenschappen*, 3, 177-194.
- Bekkers, V. J. J. M. (2007). *Beleid in beweging. Achtergronden, benaderingen, fasen en aspecten van beleid in de publieke sector*. Amsterdam, the Netherlands: Boom Lemma
- Bekkers, V. J. J. M., & Meijer, A. (2010). *Cocreatie in de publieke sector: een verkennend onderzoek naar nieuwe, digitale verbindingen tussen overheid en burger*. Den Haag, the Netherlands: Boom Juridische Uitgevers.
- Bervoets, E., Ham, T. van, & Ferwerda, H. (2016). *Samen signaleren: Burgerparticipatie bij sociale veiligheid*. Den Haag, Netherlands: Platform 31.
- Biehal, N., Mitchell, F., & Wade, J. (2003). *Lost from view: a study of missing people in the United Kingdom*. Bristol, the United Kingdom: Policy Press.
- Bleichrodt, F.W. (2010). *Over burgers en opsporing*. Deventer, the Netherlands: Kluwer.
- Boon, L. (2013, May 10). Politie: deel route vader vermiste broers in kaart - zoekacties morgen hervat. *NRC Handelsblad*. Retrieved from <https://www.nrc.nl/nieuws/2013/05/10/politie-deel-route-vader-vermiste-broers-in-kaart-zoekacties-morgen-hervat-a1434868>
- Bos, K. (2017, October 2). Leger mezoekers helpt de politie bij vermissing Anne Faber. *NRC Handelsblad*. Retrieved from <https://www.nrc.nl/nieuws/2017/10/02/leger-meezoekers-helpt-de-politie-bij-vermissing-anne-faber-13308591-a1575752>
- Bos, K. (2018, June 8). Hoe burgers en politie 13 dagen zochten naar Anne Faber. *NRC Handelsblad*. Retrieved from <https://www.nrc.nl/nieuws/2018/06/08/schouder-aan-schouder-a1605981>
- Bos, M. (2018, January 26). Kijk naar de harde les over hoe de media ontspoorde rond twee vermiste broertjes. *Trouw*. Retrieved from <https://www.trouw.nl/nieuws/kijk-naar-de-harde-les-over-hoe-de-media-ontspoorde-rond-twee-vermiste-broertjes~b8e133b5/>
- Boutellier, H. J. C. J. (2004). *The safety Utopia: Contemporary discontent and desire as to crime and punishment*. Dordrecht, the Netherlands: Kluwer Academic.
- Boutellier, H. (2008). Participatie als panacee. In: *De burger als opspoorde: OM congres 2008* (pp. 7- 33). Den Haag, the Netherlands: Openbaar Ministerie.
- Bovaird, T. (2007). Beyond Engagement and Participation: User and Community Coproduction of Public Services. *Public Administration Review*, 5, 846-860.
- Bovaird, T., & Loeffler, E. (2012). From engagement to co-production: The contribution of users and communities to outcomes and public value. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 23(4), 1119-1138.
- Brandson, T., & Pestoff, V. (2006). Co-production, the third sector and the delivery of public services: An introduction. *Public Management Review*, 8, 493-501.
- Brans, M., Maesschalck, J., Gelders, D., & Colsoul, N. (2008). *Eindrapport "Burgerparticipatie"*. Leuven, Belgium: Instituut voor de Overheid, Leuven Instituut voor Criminologie, School voor Massacommunicatieresearch.
- Brinkhoff, S. (2008). Burgeropsporing. In: *De burger als opspoorde: OM congres 2008* (pp.

- 63-94). Den Haag, the Netherlands: Openbaar Ministerie.
- Brudney, J., & England, R. E. (1983). Toward a definition of the coproduction concept. *Public Administration Review*, 43, 55-68.
- Bruijn, J. A. de, & Ten Heuvelhof, E. F. (2004). Management in netwerken. Utrecht, the Netherlands: Lemma.
- Bryman, A. (2016). *Social Research Methods* (5th edition). Oxford, the United Kingdom: Oxford University Press.
- Caem, B. van (2008). Verborgen kracht. Burgerparticipatie op het vlak van veiligheid. *Dynamics of Governance*, 12, 1-210.
- Caem, B. van (2009). Burgers als bondgenoten in veiligheid. *Openbaar Bestuur*, 19(12), 1-22.
- Cameron, N. (1990). The police and crime control: effectiveness, community policing and legal change. *Criminal Law Forum*, 1(3), 477-512.
- Clotfelter, C. T. (1977). Urban crime and household self-protective measures. *Economics and Statistics*, 59, 449-503.
- Cornelissens, A., & Ferwerda, H. (2010). Burgerparticipatie in de opsporing. Een onderzoek naar aard, werkwijzen en opbrengsten. Den Haag, the Netherlands: Politie en Wetenschap en Arnhem, the Netherlands: Bureau Beke.
- Crump, J. (2011). What are the police doing on Twitter? Social media, the police and the public. *Policy & internet*, 3(4), 1-27.
- De Gelderlander. (2013, May 17). Burgers gaan alle kanten uit. *De Gelderlander*. Retrieved from <https://www.gelderlander.nl/binnenland/burgerzoekers-gaan-alle-kanten-uit~a372a07c/>
- Deurzen, J. van (2019, April 14). Indringend gesprek met vader van Anne Faber: 'Het allerergste wat me kón gebeuren, is gebeurd'. *RTL Nieuws*. Retrieved from <https://www.rtlnieuws.nl/nieuws/nederland/artikel/4677586/anne-faber-kroniek-familie-michael-p-tbs-boek-vader-wim-oom-hans>
- Dorp, L. van (2018). 'Je zoekt naar iets dat je niet wilt vinden'. *Politievakblad Blauw*, 14(3), 12-16.
- Dückers, M., Hoof, W. van, & Holsappel, J. (2019). Psychosociale aspecten van crisismangement: taken en uitdagingen voor bestuur en beleid. Een analyse van recente casuïstiek. *Tijdschrift voor Veiligheid*, 3-4, 14-41.
- Duin, M. van, Bakker, M., & Wijkhuijs, V. (2018). De vermissing van Anne Faber. In M. Van Duin, V. Wijkhuijs & W. Jong (Red.), *Lessen uit crises en mini-crisis 2017* (pp. 233-248). Den Haag, the Netherlands: IFV.
- Duin, M. van, Jong, W., & Wijkhuijs, V. (2018). Wat kunnen we leren uit de casus 2017?. In M. Van Duin, V. Wijkhuijs & W. Jong (Red.), *Lessen uit crises en mini-crisis 2017* (pp. 233-248). Den Haag, the Netherlands: IFV.
- Duin, M. van, & Wijkhuijs, V. (2014). *Lessen uit crises en mini-crisis 2013*. Den Haag, the Netherlands: Boom Lemma uitgevers.
- Duin, M. van, Wijkhuijs, V., & Eberg, J. (2016). De rol van sociale media bij rampen en (mini) crises. *Tijdschrift voor Veiligheid*, 15(04), 41-53.
- Edelenbos, J., & Monnikhof, R. (2001). Lokale interactieve beleidsvorming. Utrecht, the Netherlands: Uitgeverij Lemma BV.
- Edwards, A.R., & Groot, J.M. de (1997). Internet en de betrokkenheid van burgers bij lokaal bestuur. *Openbaar Bestuur*, 8, 11-15.
- Eigenraam, A. (2013, May 19). Gevonden lichamen vermoedelijk Ruben en Julian. *NRC Handelsblad*. Retrieved from <https://www.nrc.nl/nieuws/2013/05/19/politie-gevonden-lichamen-zijn-zeer-waarschijnlijk-vermiste-broertjes-a1434620>
- Eijk, C. van, Steen, T., & Verschuere, B. (2017). Co-producing safety in the local community:

- A Q-methodology study on the incentives of Belgian and Dutch members of neighbourhood watch schemes. *Local Government Studies*, 43(3), 323-343.
- Faber, H. (2020). Voorwoord. In J. Lam & N. Kop (Red.), *Schouder aan schouder: Burger- en politieparticipatie tijdens de vermissing van Anne Faber* (pp. 5-6). Apeldoorn, the Netherlands: Politieacademie.
- Feigenbaum, H., & Henig, J. (1994). 'The Political Underpinnings of Privatization: A Typology'. *World Politics*, 46(2), 185-208.
- Frissen, V., Staden, M. van, Huijboom, N., Kotterink, B., Huveneers, S., Kuipers, M., & Bodea, G. (2008). *Naar een User Generated State? De impact van nieuwe media voor overheid en openbaar bestuur*. Delft, the Netherlands: TNO.
- Fyfe, N. R., Stevenson, O., & Woolnough, P. (2015). Missing persons: The processes and challenges of police investigation. *Policing and Society*, 25, 409–425.
- Gabbert, F., Tamonyte, D., Apps, J., Caso, A., Woolnough, P., Hope, L., ... & Waterworth, G. (2020). Examining the efficacy of a self-administered report form in missing person investigations. *Legal and Criminological Psychology*, 25(1), 1-16.
- Garland, D. (2001). *The culture of control: crime and social order in contemporary society*. Chicago, the United States of America: University of Chicago Press.
- Geul, A. (1999). Onbekend verschieft. Publieksparticipatie in de Verenigde Staten en Nederland. *Bestuurskunde*, 8(7), 311-322.
- Greene, K. S. (2020). *Missing Persons/ Identifying Best Practice, Training and Research Needs*. Portsmouth, United Kingdom: University of Portsmouth.
- Greene, K. S., & Pakes, F. (2012). *Establishing the cost of missing person investigations*. Portsmouth, United Kingdom: University of Portsmouth.
- Gunther Moor, L., Hutsebaut, F., Os, P. van, & Ryckeghem, D. Van. (2011). *Burgerparticipatie. Cahiers Politiestudies*, 2. Apeldoorn: Maklu.
- Hammersley, M. (1992). *What's Wrong with Ethnography?*. London, United Kingdom: Routledge.
- Hedges, C., & Shalev-Greene, K. (2016). Managing a missing person investigation. In K. Shalev-Greene & L. Alys (Eds.). *Missing persons: A handbook of research* (pp. 137–147). London & New York, NY: Taylor & Francis.
- Hedges, C. (2017). *Understanding and Managing Risk in the Context of Missing Persons. A decision-making guide to help assess the risk and urgency of a missing person case*. Brussels, Belgium: Amber Alert Europe.
- Heijmans, T. (2017, October 9). Er is veel gevonden in de zoektocht naar Anne Faber, 'maar het belangrijkste niet'. *De Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/er-is-veel-gevonden-in-de-zoektocht-naar-anne-faber-maar-het-belangrijkste-niet~b8b31d7e/>
- Helsloot, I., Reenen, P. van, & Lochem, P. van (2017). *Naar een beter opsporingsresultaat. Pleidooi voor een maatschappelijk debat over een rationelere afweging bij de politieke opsporing*. Renswoude, the Netherlands: Crisislab.
- Heth, C. D., & Cornell, E. H. (2006). A geographic information system for managing search for lost persons. *Applied spatial cognition: From research to cognitive technology*, 267-284.
- Heuvel, J. van den (2017a, October 5). Emotionele oproep familie Faber. *De Telegraaf*. Retrieved from <https://www.telegraaf.nl/nieuws/494858/emotionele-oproep-familie-faber>
- Heuvel, J. van den (2017b, October 5). 'Zoek ook naar ouders'. *De Telegraaf*. Retrieved from <https://www.telegraaf.nl/nieuws/494834/zoek-ook-naar-ouders>
- Huiskamp, F. (2013, May 10). 'Politie niet blij met burgerzoektocht naar vermiste jongetjes'.

- NRC Handelsblad*. Retrieved from <https://www.nrc.nl/nieuws/2013/05/10/politie-niet-blij-met-burgerzoektocht-naar-vermiste-jongetjes-a1434890>
- Hoeven, L. van der (2011). Samen sterker? Een onderzoek naar de wijze waarop burgerparticipatie de effectiviteit van de opsporing kan versterken. (Master's thesis). Retrieved from <https://dspace.library.uu.nl/handle/1874/214423>
- Hofman, E. L., Krol, C., Snijders, L., & Werven, E. van. (2011). Eindrapport Landelijke Werkgroep Vermiste Personen. Alphen aan den Rijn, the Netherlands: Politie en Ministerie van Veiligheid en Justitie.
- Holmes, L. (2008). Living in Limbo: The experiences, of, and impacts on, the families of missing people. London, the United Kingdom: Missing People.
- Jacobs, J., & Jong, W. (2013). @julianrubenNL: Nieuwsduiding en een luisterend oor. *Nationale Veiligheid en Crisisbeheersing*, 11(3), 32.
- Jeanis, M. N., & Powers, R. A. (2017). Newsworthiness of missing persons cases: an analysis of selection bias, disparities in coverage, and the narrative framework of news reports. *Deviant behavior*, 38(6), 668-683.
- Jeurissen, E., & Vriesde, R. (2012). Co-creatie 2.0. Strategische kansen voor de innovatieve politiepraktijk. Warnsveld, the Netherlands: Politieacademie.
- Jong, W., Dückers, M., & Holsappel, J. (2014). De vermissing van de broertjes Ruben en Julian. In M. van Duin & V. Wijkhuijs (Red.), *Lessen uit crises en (mini)-crises 2013* (pp. 153-167). Den Haag: Boom Lemma uitgevers.
- Jong, W., & Hogendoorn, M. (2017). Interview met Arnout de Vries en Frank Smilda 'Burgers zijn amateur in het speurwerk, maar professional op specifieke onderwerpen'. *Tijdschrift voor de Politie*, 79(7), 17-20.
- Kampen, A. van (2013a, May 7). Zoekactie naar vermiste kinderen bij Doorn. *NRC Handelsblad*. Retrieved from <https://www.nrc.nl/nieuws/2013/05/07/zoekactie-naar-vermiste-kinderen-bij-doorn-a1434965>
- Kampen, A. van (2013b, May 19). Dertien dagen zoeken naar Ruben en Julian: wat gebeurde er sinds 6 mei al. *NRC Handelsblad*. Retrieved from <https://www.nrc.nl/nieuws/2013/05/19/dertien-dagen-zoeken-naar-ruben-en-julian-wat-gebeurde-er-sinds-6-mei-a1434627>
- Keeken, C. van (2013, May 17). 'Wij bepalen zelf welk gebied we uitkammen'. *Trouw*. Retrieved from <https://www.trouw.nl/nieuws/wij-bepalen-zelf-welk-gebied-we-uitkammen~b0347625/>
- Kerstholt, J. H., & Vries, A. de (2018). Agent in burger. *Tijdschrift voor de politie*, 80(5), 16-21.
- Klinger, D. (1997). Negotiating order in police work: An ecological theory of police response to deviance. *Criminology*, 35, 277-306.
- Kop, N. (2011). Sociale media in de opsporing. In G. Snel & P. Tops (Red.), Een wereld te winnen. Sociale media en de politie, een eerste verkenning (pp. 43-55). Apeldoorn. the Netherlands: Politieacademie.
- Kop, N. (2012). Van opsporing naar crisisbeheersing: Vijf strategische implicaties. Den Haag, the Netherlands: Boom Lemma uitgevers.
- Kop, N. (2013). Burgerparticipatie; hoe houdt de politie de regie?. *Tijdschrift voor de Politie*. 75(6), 20-21.
- Kop, N. (2016). Burgerparticipatie in de opsporing: kunnen we een treetje hoger. *Tijdschrift voor de Politie*, 78(7), 27-30.
- Kop, N., Wal, R. van der., & Snel, G. (2012). Opsporing belicht. Over strategieën in de opsporingspraktijk. Den Haag, the Netherlands: Boom Lemma uitgevers.
- Koppenjan, J., & Klijn, E.H. (2004). Managing uncertainties in networks. London: Routledge.

- Lam, J., Kop, N., & Plancken, C. (2019). Burgerparticipatie: leren van de zaak Anne Faber. *Het tijdschrift voor de politie*. Retrieved from <https://www.websitevoordepolitie.nl/coverstory-burgerparticipatie-leren-van-de-zaak-anne-faber/>
- Lam, J., & Kop, N. (2020). *Schouder aan schouder: Burger- en politieparticipatie tijdens de vermissing van Anne Faber*. Apeldoorn, the Netherlands: Politieacademie.
- Land, M. van der, Stokkom, B. van, & Boutellier, H. (2014). *Een inventarisatie van burgerparticipatie op het domein van de sociale veiligheid*. Den Haag, the Netherlands: VU/WODC.
- Landelijke Eenheid Politie. (2013a). Twee broertjes uit Zeist Vermist. Retrieved from <https://www.politie.nl/nieuws/2013/mei/7/twee-broertjes-uit-zeist-vermist.html>
- Landelijke Eenheid Politie. (2013b). Politie zoekt voorwerpen in zaak vermiste broertjes. Retrieved from <https://www.politie.nl/nieuws/2013/mei/19/03-politiezoekt-voorwerpen-in-zaak-vermiste-broertjes.html>
- Landelijke Eenheid Politie. (2013c). Veelgestelde vragen. Retrieved from <https://www.politie.nl/mijn-buurt/03-midden-nederland/veelgestelde-vragen.html#12-is-het-mogelijk-dat-de-vader-een-handlanger-heeft-die-de-kinderen-nu-heeft>
- Landelijke Eenheid Politie. (2013d). Politie roeps op camerabeelden te uploaden in zaak vermiste broertjes. Retrieved from <https://www.politie.nl/nieuws/2013/mei/10/03-politie-roept-op-camerabeelden-te-uploaden-in-zaak-vermiste-broertjes.html>
- Landelijke Eenheid Politie. (2018a). Opgeloste zaak: onderzoek Anne Faber. De zaak. Retrieved from <https://www.politie.nl/gezocht-en-vermist/dossiers/2017/03-utrecht-vermissing-anne-faber/onderzoek-anne-faber.html>
- Landelijke Eenheid Politie. (2018b). Opgeloste zaak: onderzoek Anne Faber. Voortgang. Retrieved from <https://www.politie.nl/gezocht-en-vermist/dossiers/2017/03-utrecht-vermissing-anne-faber/onderzoek-anne-faber-tijdlijn.html>
- Landelijke Eenheid Politie. (2018c). Opgeloste zaak: onderzoek Anne Faber. Vragen. Retrieved from <https://www.politie.nl/gezocht-en-vermist/dossiers/2017/03-utrecht-vermissing-anne-faber/ondxerzoek-anne-faber-qa.html>
- Landelijke Eenheid Politie (2018d). Opgeloste zaak: onderzoek Anne Faber. Retrieved from <https://www.politie.nl/gezocht-en-vermist/dossiers/2017/03-utrecht-vermissing-anne-faber/onderzoek-anne-faber-tijdlijn.html>
- Landelijke Eenheid Politie. (2021a) Opsporing. Retrieved from <https://www.politie.nl/themas/thema/opsporing.html>
- Landelijke Eenheid Politie. (2021b). Vermissingen. Retrieved from <https://www.politie.nl/themas/vermissing.html>
- Lavrakas, P. J., & Lewis, D. A. (1979). *The Conceptualization and Measurements of Citizen Crime Prevention Behaviors*. Evanston, the United States of America: Northwestern University, Center for Urban Affairs.
- Leadbeater, C., & Cottam, H. (2007). *The User Generated State: Public Services 2.0*. Retrieved from <http://charlesleadbeater.net/wp-content/uploads/2007/03/PSRG3.pdf>
- Leiden, I. van, & Hardeman, M. (2015a). *Vermisten op het spoor. Rechercheren naar langdurige vermissingen*. Arnhem, the Netherlands: Bureau Beke.
- Leiden, I. van, & Hardeman, M. (2015b). *Vermisten op de kaart: Aard en omvang van langdurige vermissingen*. Arnhem, the Netherlands: Bureau Beke.
- Lenferink, L. I., de Keijser, J., Wessel, I., de Vries, D., & Boelen, P. A. (2019). Toward a better understanding of psychological symptoms in people confronted with the disappearance of a loved one: A systematic review. *Trauma, Violence, & Abuse*, 20(3), 287-302.
- Loader, I., & Mulcahy, A (2003). *Policing and the Condition of England: Memory, Politics*

- and Culture. Oxford, the United Kingdom: Oxford University Press.
- Loeffler, E., & Bovaird, T. (2016). User and community co-production of public services: What does the evidence tell us?. *International Journal of Public Administration*, 39(13), 1006-1019.
- Lub, V. (2016). De burger op wacht. Het fenomeen 'buurtpreventie' onderzocht. Rotterdam, the Netherlands: Kenniswerkplaats Leefbare Wijken.
- Maguire, M. (2008). Criminal investigation and crime control. In: T. Newburn (ed.). *Handbook of policing*, second edition. Cullompton, United Kingdom: Willan Publishing.
- Ministerie van Binnenlandse Zaken en Koninkrijksrelaties (BZK). (2009). *Handvest Verantwoordelijk Burgerschap*. [Brief] Den Haag, the Netherlands: BZK.
- Meijer, A. J. (2011). Networked coproduction of public services in virtual communities: From a government-centric to a community approach to public service support. *Public Administration Review*, 71, 598-607.
- Meijer, A. J. (2014). New media and the coproduction of safety/ An empirical analysis of Dutch practices. *The American Review of Public Administration*, 44(1), 17-34.
- Meyer, C. B. (2001). A Case in Case Study Methodology. *Field Methods*, 13(4), 329-352.
- Ministerie van Justitie & Ministerie van Binnenlandse Zaken en Koninkrijksrelaties. (2002). Naar een veiliger samenleving. Retrieved from <https://kennisopenbaarbestuur.nl/media/230107/Naar-een-veiliger-samenleving.pdf>
- Ministerie van Justitie en Veiligheid. (2014). Wat te doen als iemand vermist wordt. Den Haag, the Netherlands: Ministerie van Veiligheid en Justitie
- Ministerie van Justitie en Veiligheid. (2019). Beleidsreactie onderzoeken detentieverloop Michael P.. Retrieved from <https://www.inspectie-jenv.nl/Publicaties/beleidsnotas/2019/03/28/beleidsreactie-onderzoeken-detentieverloop-michael-p>
- Misérus, M. (2017, October 4). Met speurhonden en ME'ers zoekt de politie verder naar de al dagen vermiste Anne Faber (25). *De Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/met-speurhonden-en-me-ers-zoekt-de-politie-verder-naar-de-al-dagen-vermiste-anne-faber-25~ba39f6d0/>
- Mols, A., & Pridemore, J. (2019). When Citizens Are "Actually Doing Police Work"/ The Blurring of Boundaries in WhatsApp Neighbourhood Crime Prevention Groups in The Netherlands. *Surveillance & Society*, 17(3/4), 272-287.
- Nationale Ombudsman (2013). Vermist Kind. Hoe de politie omgaat met meldingen van vermissing van minderjarigen. Rapport 2013.15.
- Nehnevajsa, J. (1977). *Crime in the Neighborhood*. Pittsburgh, the United States of America: University Center for Urban Research.
- Newburn, T., Williamson, T., & Wright, A. (2007). *Handbook of criminal investigation*. Cullompton, United Kingdom: Willan.
- NOBO. (2021, January). Bereik (6+) online media uit Nederlands Online Bereikonderzoek januari 2021. Retrieved from <https://vinex.nl/wp-content/uploads/2021/02/NOBO-Top-50-jan-2021.pdf>
- Noije, L. Van. (2011). 'Sociale veiligheid'. In: R. Bijl, J. Boelhouwer, M. Cloin & E. Poller (Eds). *De sociale staat van Nederland 2011*. (pp. 259-282). Den Haag, the Netherlands: Sociaal Cultureel Planbureau.
- Noije, L. van (2012). 'Coproductie veiligheid'. In: V. Veldheer, J.J. Jonker, L. van Noije & C. Vrooman (Red.), *Een beroep op de burger. Minder verzorgingsstaat, meer eigen verantwoordelijkheid?* (pp.188-210). Den Haag, the Netherlands: Sociaal Cultureel Planbureau.
- Noordegraaf, M. (2008). *Management in het publieke domein*. Bussum, the Netherlands:

- Coutinho.
- Normann, R. (1984). *Service Management: Strategy and Leadership in Service Businesses*. Chichester, United Kingdom: Wiley.
- NOS. (2013, May 19). Persconferentie over gevonden lichamen Cothen. *NOS*. Retrieved from <https://nos.nl/video/508676-persconferentie-over-gevonden-lichamen-cothen>
- NOS. (2017a, October 12). Tijdlijn: de vermissing van Anne Faber. *NOS*. Retrieved from <https://nos.nl/artikel/2196764-tijdlijn-de-vermissing-van-anne-faber>
- NOS. (2017b, October 9). Scenario kaartenmaker: Anne Faber schulde bij Den Dolder en verdween. *NOS*. Retrieved from <https://nos.nl/artikel/2197119-scenario-kaartenmaker-anne-faber-schulde-bij-den-dolder-en-verdween>
- NOS. (2017c, October 9). Zedendelinquent aangehouden voor vermissing Anne Faber. *NOS*. Retrieved from <https://nos.nl/artikel/2197097-zedendelinquent-aangehouden-voor-vermissing-anne-faber.html>
- NPIA (2012). Missing persons: Data and Analysis 2011/2012. Retrieved From <https://webcache.googleusercontent.com/search?q=cache:Y7m8VXVL8AgJ:https://missingpersons.police.uk/cygb/resources/downloads/download/37+&cd=3&hl=nl&ct=clnk&gl=nl&client=safari>
- NRC Handelsblad. (2019, April 12). Dertien dagen op zoek naar Anne Faber. *NRC Handelsblad*. Retrieved from <https://www.nrc.nl/nieuws/2019/04/12/anne-anne-annee-a3956730>
- NU.nl. (2013, May 19). Chronologie vermiste broers Ruben en Julian. *NU.nl*. Retrieved from <https://www.nu.nl/binnenland/3478609/chronologie-vermiste-broers-ruben-en-julian.html>
- Oakerson, R. J., & Bell, H. A. (1983). "Neighborhood variations in the coproduction of police services." Presented at the annual meeting of the Midwest Political Science Association, Chicago, April 20-23.
- Ommeren, D. van (Producer & director). (2014). *Ruben en Julian, twee weken tussen hoop en vrees*. [Documentary]. Utrecht, the Netherlands: RTV Utrecht.
- Omroep Gelderland. (2017a, October 10). Vermissing Anne Faber: politie zoekt verder rond psychiatrische kliniek. *Omroep Gelderland*. Retrieved from <https://www.omroep gelderland.nl/nieuws/2144905/Vermissing-Anne-Faber-politie-zoekt-verder-rond-psychiatrische-kliniek>
- Omroep Gelderland. (2017b, October 3). Vermissing Anne Faber: 'Ongeluk lijkt niet voor de hand te liggen'. *Omroep Gelderland*. Retrieved from <https://www.omroep gelderland.nl/nieuws/2144237/Vermissing-Anne-Faber-Ongeluk-lijkt-niet-voor-de-hand-te-liggen>
- Onderzoeksraad voor Veiligheid (2019). *Forensische zorg en veiligheid. Less uit de casus Michael P. Den Haag*, the Netherlands: Onderzoeksraad voor Veiligheid.
- Ostrom, E. (1978). Citizen participation and policing: What do we know?. *Nonprofit and Voluntary Sector Quarterly*, 7, 102-108.
- Ostrom, E. (1996). Crossing the Great Divide: Coproduction, Synergy and Development. *World Development*, 24(6), 1073-1087.
- Paarlberg, L. E., & Gen, S. (2009). Exploring the determinants of nonprofit coproduction of public service delivery. The case of K-12 public education. *American Review of Public Administration*, 39, 391-408.
- Parks, R. B., Baker, P. C., Kiser, L., Oakerson, R., Ostrom, E., Ostrom, V., ... Wilson, R. (1981). Consumers as co-producers of public services: Some economic and institutional considerations. *Policy Studies Journal*, 9, 1001-1011.
- Peel, R. (1829). *Sir Robert Peel's Principles of Law Enforcement 1829*. Retrieved

- from https://www.ottawapolice.ca/en/about-us/resources/Our-History/Principles_of_Law_Enforcement.pdf
- Penris, I. (2017, October 6). Publiek zoekt massaal mee, maar heeft dat zin?. *AD*. Retrieved from <https://www.ad.nl/utrecht/publiek-zoekt-massaal-br-mee-maar-heeft-dat-zin~a63d8c7a/>
- Percy, S. L. (1978). Conceptualizing and measuring citizen coproduction of safety and security. *Policy Studies Journal*, 7, 486-492.
- Percy, S. L. (1984). Citizen participation in the coproduction of urban services. *Urban Affairs Quarterly*, 19(4), 431-446.
- Percy, S. L. (1987). Citizen involvement in coproducing safety and security in the community. *Public Productivity Review*, 10, 83-93.
- Pröpper, I. M. A. M., & Steenbeek, D.A. (1998). Interactieve beleidsvoering: typering, ervaringen en dilemma's. *Bestuurskunde*, 7(7), 292-301.
- Quinet, K. (2007). The Missing Missing. Toward a Quantification of Serial Murder Victimization in the United States. *Homicide Studies*, 11(4), 319-339.
- Reiner, R. (2010). The politics of the Police. In: Baardewijk, J. van en B. Hoogenboom (2011). Opsporing en het belang van de burger. *Cahiers Politiestudies*, 19, pp. 107-122.
- Renard, M. (2013a, May 8). Julian en Ruben groot op schermen België en Duitsland. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/julian-en-ruben-groot-op-schermen-belgie-en-duitsland~b7f69d11/>
- Renard, M. (2013b, May 17). Politie sluit handlanger vader broertjes niet uit. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/politie-sluit-handlanger-vader-broertjes-niet-uit~be94f140/>
- Roberts, T., & Marchais, G. (2018). Assessing the role of social media and digital technology in violence reporting. *Contemporary Readings in Law & Social Justice*, 10(2), 9-42.
- Robson, C. (1993). *Real World Research: A Resource for Social Scientists and Practitioners-Researchers*. Blackwell: Oxford.
- Roos, T. de. (2000). 'Burgers, overheid, rechtshandhaving en eigenrichting'. *Tijdschrift voor Criminologie*, 4, 307-316.
- Rosenbaum, D.P.J., Lurigio, A., & Lavrakas, P.J. (1987). *Crime Stoppers: A National Evaluation of Program Operations and Effects*. Washington DC, the United States of America: National Institute of Justice.
- Rosentraub, M. S., & Harlow, K. S. (1980). "The coproduction of police services: a case study of citizens' input in the coproduction of personal safety." Presented at the annual meeting of the American Society for Public Administration, San Francisco, March 13-16.
- Rosentraub, M. S., & Harlow, K. S. (1983). "Public/private relation and service delivery: the coproduction of personal safety". *Policy Studies J.*, 11, 445-457.
- Rosentaub, M. S., & Sharp, E. B. (1981). "Consumers as producers of social services: coproduction and the level of services.". *Southern Rev. of Public Administration*, 4, 502-539.
- RTL Nieuws, (2013a, September 30). Tijdlijn: Zoektocht Ruben en Julian van dag tot dag. *RTL Nieuws*. Retrieved from <https://www.rtlnieuws.nl/nieuws/artikel/2359186/tijdlijn-zoektocht-ruben-en-julian-van-dag-tot-dag>
- RTL Nieuws. (2013b, May 8). Zaak Ruben en Julian: een terugblik van dag tot dag. *RTL Nieuws*. Retrieved from <https://www.rtlnieuws.nl/nieuws/artikel/2582886/zaak-ruben-en-julian-eeen-terugblik-van-dag-tot-dag>
- RTL Nieuws. (2013c, May 16). Gemeente: burgers, blijf weg uit bossen. *RTL Nieuws*.

- Retrieved from <https://www.rtlnieuws.nl/nieuws/artikel/2585966/gemeente-burgers-blijf-weg-uit-de-bossen>
- RTV Utrecht. (2013a, May 11). Vermiste broertjes niet gevonden door vrijwilligers. *RTV Utrecht*. Retrieved from <https://www.rtvutrecht.nl/nieuws/999472/vermiste-broertjes-niet-gevonden-door-vrijwilligers.html>
- RTV Utrecht. (2013b, May 13). Geen resultaat zoektocht broertjes in Geulle. *RTV Utrecht*. Retrieved from <https://www.rtvutrecht.nl/nieuws/999769/geen-resultaat-zoektocht-broertjes-in-geulle.html>
- RTV Utrecht. (2017, October 1). TIJDLIJN: wat weten we over de vermissing van Anne Faber?. *RTV Utrecht*. Retrieved from <https://www.rtvutrecht.nl/nieuws/1669157/tijdlijn-wat-weten-we-over-de-vermissing-van-anne-faber.html>
- Salet, R., & Terpstra, J. (2015). ZSM: confronterende omwenteling of creeping crisis. In: Baas, R., Havinga, T., Laemers, M. & Tonkelaar, H. den. (Red.), *Rechtspleging en rechtsbescherming* (pp. 75-86). Deventer, the Netherlands: Kluwer.
- Scholte, R.D. (2008). Burgerparticipatie in veiligheidsprojecten. Amsterdam, the Netherlands: Onderzoeksgroep Veiligheid en Burgerschap.
- Schouten, S.A., Eshof, P. van den, & Vos, A. J. (1996). 'Vermiste personen in Nederland. Resultaten van een landelijk onderzoek'. In: S.A. Schouten (Red.). *Vermiste personen. Registratie en opsporing*. Zoetermeer, the Netherlands: KLPD, Divisie Centrale Recherche Informatie.
- Schouten, S.A., & Eshof, P. van den (2002). Handboek vermiste personen. Deel 1: procedure en registratie. Zoetermeer, the Netherlands: KLPD/NRI.
- Schouten, S., Eshof, P. van den, Schijf, I., & Schippers, C. (2016). Handboek Vermiste Personen. Den Haag, the Netherlands: Reed Business.
- Schouten, D. & Tijmstra, F. (2018, June 2). De zoektocht van Anne Faber van dag tot dag. *EenVandaag*. Retrieved from <https://eenvandaag.avrotros.nl/item/de-zoektocht-naar-anne-faber-van-dag-tot-dag/>
- Schraivesande, F. (2017, October 10). 'Ze móét zijn gaan schuilen voor de wolkbreuk'. *NRC Handelsblad*. Retrieved from <https://www.nrc.nl/nieuws/2017/10/10/ze-moet-zijn-gaan-schuilen-voor-de-wolkbreuk-13430013-a1576691>
- Seawright, J., & Gerring, J. (2008). Case Selection Techniques in Case Study Research: A Menu of Qualitative and Quantitative Options. *Political Research Quarterly*, 61(2), 294-308.
- Sikkema, C. (2013). 'Mijn bos is mijn bos niet meer'. *Nieuwe Revu*, 21, 1-2.
- Spearin, C. (2010). Against the current? Somali pirates, private security, and American responsabilization. *Contemporary Security Policy*, 31(3), 553-568.
- Starmans, I., & Oberijé, N. (2006). Burgerparticipatie bij rampen en zware ongevallen. Arnhem, the Netherlands: Nederlands Instituut Fysieke Veiligheid Nibra.
- Steenbergen, E. van (2013, May 18). Vermiste broertjes Zeist zouden onder toezicht komen. *NRC Handelsblad*. Retrieved from <https://www.nrc.nl/nieuws/2013/05/18/vermiste-broertjes-zeist-zouden-onder-toezicht-komen-a1434662>
- Stoffelen, A. (2013, May 10). Geen spoor van vermiste broertjes. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/geen-spoor-van-vermiste-broertjes~b893a7bc/>
- Stuive, K., & Deelman, P. (2010). Burgernet en andere vormen van burgerparticipatie in de Veiligheidszorg. De Bilt, the Netherlands: Landelijk Programmabureau Burgernet and Dordrecht, the Netherlands: Stichting SMVP Producties.
- Terpstra, J. (2008). Police, local government, and citizens as participants in local security networks. *Police practice and research: an international journal*, 9(3), 213-225.

- Terpstra, J., & Kouwenhoven, R. (2004). Samenwerking en netwerken in de lokale veiligheidszorg. Universiteit Twente, the Netherlands: IPIT Instituut voor Maatschappelijke Veiligheidsvraagstukken.
- Thijssen, W. (2013, May 11). De hele Heuvelrug in de ban van vermiste broertjes. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/de-hele-heuvelrug-in-de-ban-van-vermiste-broertjes~b966c834/>
- Tops, P.W. (1996). Verhalen over coproductie: de praktijk van politieke en bestuurlijke vernieuwing in Noord-Brabantse gemeenten. Tilburg, the Netherlands: Katholieke Universiteit Brabant.
- Tops, P.W. (1999). Coproductie als bestuursstijl. Ervaringen en vuistregels. *Bestuurswetenschappen*, 3, pp. 201-225.
- Tuurnas, S. (2020). How Does the Idea of Co-Production Challenge Public Sector Communication?. In V. Luoma-aho & M. Canel (Red.), *The Handbook of Public Sector Communication (First Edition)* (pp. 139-151). New Jersey, the United States of America: John Wiley & Sons.
- Valk, E. de (2013, May 11). Politie geeft kaart met route vader vermiste broertjes vrij. *NRC Handelsblad*. Retrieved from <https://www.nrc.nl/nieuws/2013/05/11/politie-geeft-kaart-met-route-vader-van-vermiste-broertjes-vrij-a1434840>
- Veldboer, L. (1996). De inspraak voorbij: ervaringen van burgers en lokale bestuurders met nieuwe vormen van overleg. Amsterdam, the Netherlands: Instituut voor Publiek en Politiek.
- Veldheer, V., Jonker, J., Van Noije, L., & Vrooman, C. (2012). Een beroep op de burger. Minder verzorgingsstaat, meer eigen verantwoordelijkheid. *Sociaal en Cultureel Rapport 2012*. Den Haag, the Netherlands: Sociaal en Cultureel Planbureau.
- Verschuere, B., Brandsen, T., & Pestoff, V. (2012). Co-production: The state of art in research and the future agenda. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 23(4), 1083-1101.
- Volkskrant. (2013a, May 19). Al ruim 3000 tips in zaak vermiste broertjes. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/al-ruim-3000-tips-in-zaak-vermiste-broertjes~b4235fe2/>
- Volkskrant (2013b, May 10). 'Eigen zoekactie begrijpelijk, maar onhandig'. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/eigen-zoekactie-begrijpelijk-maar-onhandig~b52b7d5b/>
- Volkskrant. (2013c, May 11). 250 burgers zoeken naar vermiste jongens. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/250-burgers-zoeken-naar-vermiste-jongens~b1de149c/>
- Volkskrant. (2013d, May 10). Politie zet stuk grond af, maar van vermiste broers nog geen spoor. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/politie-zet-stuk-grond-af-maar-van-vermiste-broers-nog-geen-spoor~b6f65e90/>
- Volkskrant. (2013e, May 19). Ruben en Julian nog niet gevonden, nu F-16 ingezet. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/ruben-en-julian-nog-niet-gevonden-nu-f-16-ingezet~bdbbfcbe/>
- Volkskrant. (2013f, May 14). Politie bevestigt gesprek ex-vriendin vader Ruben en Julian. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/politie-bevestigt-gesprek-ex-vriendin-vader-ruben-en-julian~bfa95a36/>
- Volkskrant. (2013g, May 9). Zoektocht naar vermiste broertjes in Doorn gestopt. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/zoektocht-naar-vermiste-broertjes-in-doorn-gestopt~b543fd83/>
- Volkskrant. (2013h, May 15). Politie: 'Vader Julian en Ruben maakte afscheidsrit'.

- Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/politie-vader-julian-en-ruben-maakte-afscheidsrit~bb63d5d2/>
- Volkskrant. (2013i, May 16). Politie over zoektocht: Opgeven is geen optie. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/politie-over-zoektocht-opgeven-is-geen-optie~be921b52/>
- Volkskrant. (2013j, May 13). Politie vraagt Belgische deskundige om advies in zoektocht naar broertjes. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/politie-vraagt-belgische-deskundige-om-advies-in-zoektocht-naar-broertjes~b8907fa1/>
- Volkskrant. (2013k, May 15). Telefoon politie roodgloeiend na Opsporing Verzocht. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/telefoon-politie-roodgloeiend-na-opsporing-verzocht~bea3c911/>
- Volkskrant. (2013l, May 15). Woede om achterhouden informatie Julian en Ruben. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/woede-om-achterhouden-informatie-julian-en-ruben~ba8cbce2/>
- Volkskrant. (2013m, May 13). Zoekactie in Geulle vanochtend weer verder. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/zoekactie-in-geulle-vanochtend-weer-verder~b20e23a5/>
- Volkskrant. (2013n, May 20). 'Uitermate complex onderzoek'. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/uitermate-complex-onderzoek~bbe65fad/>
- Volkskrant. (2013o, May 13). 'Verdwijning broertjes is goed voorbereid'. *Volkskrant*. Retrieved from <https://www.volkskrant.nl/nieuws-achtergrond/verdwijning-broertjes-is-goed-voorbereid~bdf6a350/>
- Waegel, W. B. (1981). Case routinization in investigative police work. *Social Problems*, 28, 263-275.
- Welch, E. (2012). Comparative Approaches to Missing Persons Procedures: An Overview of British, American and Australian Policies. Retrieved from <https://missingwomen.library.uvic.ca/wp-content/uploads/2010/10/RESE-3-March-2012-EW-Comparative-Approaches-to-MP-Procedures.pdf>
- Whitaker, G. P. (1980). Co-production: Citizen participation in service delivery. *Public Administration Review*, 40, 240-246.
- Wittenberg, D. (2010, November 22). 'Crisis dreigt in opsporing'. *NRC Handelsblad*. Retrieved from <https://www.nrc.nl/nieuws/2010/11/22/crisis-dreigt-in-opsporing-11972747-a354935>
- Yin, R.K. (2018) Case study research and Applications: Design and methods (6th edition). Thousand Oaks, CA: Sage
- Zantingh, P. (8 mei 2013). Camerabeelden tonen vermiste broertjes, zoektocht morgen verder. *NRC Handelsblad*. Retrieved from <https://www.nrc.nl/nieuws/2013/05/08/de-drie-vermiste-broertjes-zijn-gezien-op-camerabeelden-a1434933>