Matti Vuorensyrjä & Jenita Rauta (eds.)

The Police and the Public

In-Depth Essays Based on Police Barometer Survey Data, Vol. I

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Summary

The Police and the Public. In-Depth Essays Based on Police Barometer Survey Data, Vol. I

The Police Barometer Survey (PBS, 1999–2022, continues) underwent a significant methodological change in 2022. Beginning from the 2022 sweep, the biennial cross-section surveys are based on random sampling methodology and a combination of web-based and traditional surface mail surveys. The earlier surveys have been based on quota sampling methodology and computer assisted personal interviews (CAPIs). At the same time, the sample size expanded. In the latest survey, in the autumn of 2022, it was 8,500, with a response rate of 47.6% (4,044/8,500). In earlier surveys, approximately 1,000 persons were interviewed for each cross-section study.

Due to random sampling methodology, the data of the renewed study have a robust statistical basis, with plenty of opportunities for further scholarly research. This book seizes some of these opportunities. It consists of three in-depth essays, all of which are based on the latest PBS 2022 data set. It will be followed by volume II in 2025, with another set of similar essays.

The first essay considers *Public Austerity Programs and Citizens' Trust in the Operation of the Police*. Downsizing in the police was noticeable in Finland, in the early to mid-2010s. The number of police officers was reduced by approximately 7–9% from 2008 to 2017, depending on the way one computes the scale of downsizing. The number of police officers has not fully recovered to the level of 2008, even today (by the end of 2023). There are theoretical reasons to believe that such a downsizing has detrimental effects on the number of outputs of the police, and thus also on the accessibility of police services. Earlier evidence on the matter has been quantitative in nature. In the new PBS, the effect can now be detected in qualitative data. In the PBS 2022, the respondents were asked an open-ended question on trust in the operation of the police. According to the standard PBS report by the Ministry of the Interior (2023),[1] the most common reason for *distrust* in the operation of the police

[1] Ministry of the Interior (2023). *Poliisibarometri 2022. Kansalaisten arviot poliisin toiminnasta ja Suomen sisäisen turvallisuuden tilasta.* Sisäministeriö, Helsinki.

expressed by the respondents was, a bit surprisingly, the lack of resources of the police. Approximately 12.9% of the respondents who answered the open-ended question referred to this reason ("shortage of resources of the police," "the number of police officers being too low," "appropriations of the police being insufficient," *etc.*).

The authors of the essay reanalyzed and recoded the qualitative data of the latest PBS study in their entirety (N = 2,302 open-ended answers / text records), in order to confirm the number of records where respondents referred to resource shortages of the police as a reason for distrust in the operation of the police. The authors used the same data and essentially the same coding criteria as the researchers of the standard report by the Ministry of the Interior (2023). According to the final estimate of the new study, approximately 12.3% of the respondents referred to resource shortages as a reason for their lack of trust in the operation of the police. The authors also considered the share of respondents who referred to resource shortages of the police and to one (or more) of the four services domains of the police *as* domains suffering from scarcity: permits and licenses services of the police, traffic enforcement, criminal investigation, and surveillance and emergency operations. The authors conclude the essay by providing the reader with a detailed descriptive account of the answers within each of these four domains.

The general estimate by the authors came close to the original estimate by the Ministry of the Interior (2023), thus confirming the conclusions of the original study. Concern over the resources of the police is, apparently, one of the factors that affect citizens' distrust in the operation of the police, perhaps the major factor.

The services-specific estimates revealed that the respondents were primarily concerned with the state of criminal investigation, and surveillance and emergency operations of the police, not so much with permits and licenses services, nor with traffic enforcement. The authors note that, differences between the different services domains of the police are even higher, if considered against the volume of services-specific police contacts of the citizens. The number of yearly police-public contacts is much higher in the domain of permits and licenses services than in the other domains, yet resource shortages were detected elsewhere—in criminal investigation and in surveillance and emergency operations.

The second essay analyzes *The Dark Side of the Dark Figure of Crime. A Study of Victims Who Leave Crimes Unreported Out of Fear of Reprisal*. There were 121 victimized persons in the PBS 2022 data set who had left at least one crime unreported for the reason of fear of reprisal (victimization over lifetime). The authors of the essay asked a simple question: how to characterize these victimized persons? Specifically, what are their key demographic features, in terms of age and gender, compared to other victims of crime? Are they economically disadvantaged or are they well-to-do, considering their education, labor market status, and yearly gross income? Where do they come from, as regards the police districts of mainland Finland?

There was also a further, theoretically driven research question in the essay. What is the effect of former life experiences on fear-based non-reporting? Specifically, what is the predictive power of violent crimes experienced earlier on in life, in this respect—assaults, sexual offences, and armed threats experienced over lifetime? Based on *the prospect theory*[2] and *the theory of availability heuristic*,[3] both of which have been originally developed by Amos Tversky and Daniel Kahneman in the 1970s, the authors hypothesized that fear-based non-reporting is a function of violent crime victimization. This, indeed, proved to be the case. Violent crime victimization was by far the most significant predictor of fear-based non-reporting.

The third essay, *Protection. A Key to the Code of Witness Intimidation?* analyzes intimidation of people who have taken part in the criminal procedure as victims or witnesses. The primary interest of the study was in the question of, whether or not the victims of intimidation report the incident of intimidation to the police. There are two factors related to victims' and witnesses' confidence in the police that could be expected to affect their willingness to report the incident of intimidation. If the victims of intimidation have confidence in the ability of the police to protect people from violence in situations characterized by a serious threat, such as a death threat, and if they have confidence in the procedural justice of the police, their propensity to report can be expected to be higher than average. The authors tested the hypotheses with the help of the PBS data, relying on perceived protection and perceived procedural justice variables,

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[2] Kahneman, D. & Tversky, A. (1979). Prospect Theory: An Analysis of Decision Under Risk. *Econometrica*, 47(2), 263–292.

[3] Tversky, A. & Kahneman, D. (1973). Availability: A Heuristic for Judging Frequency and Probability. *Cognitive Psychology*, 5(2), 207-232.

originally developed in the Euro-Justis project (2008–2011) for the benefit of the European Social Survey's 2010 sweep.

The perceived procedural justice hypothesis was confirmed for no demographic group, in within-group non-parametric tests. The perceived protection hypothesis was confirmed for the group of female victims of intimidation, but not for any other demographic group. Women who had reported the incident of intimidation had a significantly higher confidence in the ability of the police to protect people from violence than women who had remained silent. Female victims of intimidation in particular, then, seem to benefit from the feeling of being protected.

The Data

The data of the PBS, including their history, are comprehensively depicted in the standard report by the Ministry of the Interior (2023, pp. 31–44). The essays of this book, furthermore, give a detailed description of their own data subsets. We do not revisit the characteristics of the data in these introductory notes. A few further aspects of the data, however, deserve to be noted here.

The PBS data are valuable in that they combine elements of victimization studies (such as the National Crime Victimization Survey NCVS in the US) with elements of police-citizen contact studies (such as the Police–Public Contact Survey PPCS in the US), much in the vein of the Nationella Trygghetsundersökningen (NTU, in Sweden). This means that the scholars who use these data do not have to go through the laborious and often uncertain and risky process of merging data sets to each other (see, *e.g.*, Slocum, 2018, who uses data from both the NCVS and the PPCS in her study).[4]

The sample size of the PBS is modest, compared to practically all other victimization and police-citizen contact surveys, such as the NCVS, the NTU, or the Crime Survey for England and Wales (CSEW). The quality of the data, however, is no different. Following the proposition of the Police University College of Finland (the planning partner of the PBS project), the Ministry of the Interior decided that the 2022 data set was to be collected and the analysis weights for the data set computed by Statistics Finland (the data collection partner of the project).

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[4] Slocum, L.A. (2018). The Effect of Prior Police Contact on Victimization Reporting: Results from the Police–Public Contact and National Crime Victimization Surveys. *Journal of Quantitative Criminology*, 34(2), 535–589.

Statistics Finland used the database of the Digital and Population Data Services Agency of Finland in the data collection and random sampling procedure, supplementing the registers of the database with their own data. The analysis weights computed by Statistics Finland are used in all analyses of all essays of this book.

Acknowledgements and the Division of Labor

We would like to thank the Ministry of the Interior for coordinating and funding the PBS project, thus making the project possible in its current form. Special thanks go to Senior Specialist Emilia Hämäläinen from the Ministry. Absolutely great work! We also want to thank the experts of Statistics Finland for their diligent work in gathering and preparing the data of the new PBS 2022, and for computing the analysis weights of the data. The project would not have been possible without Senior Statistician Johanna Koivula, Senior Statistician Henna Attila, and Senior Researcher Pauli Ollila. Finally, our thanks go to the peer-reviewers of the book. Ours is not a routine, but a heartfelt message here. We have rarely come across standards as high as this in peer-review work.

The first two volumes of "The Police and the Public" have been designed and edited by the two authors in collaboration. The data of Chapter 1 in this book have been analyzed, first independently by both Jenita Rauta and Matti Vuorensyrjä, and then, in the final stage of the analysis, in collaboration by both authors, including the conclusions thereof. The entire text corpus of the book has been written by Matti Vuorensyrjä.

Second, Revised Edition

In February 2025, an error was detected in the data that the Police Barometer Survey project had received from Statistics Finland (PBS, 2022). The error affected Chapter 3 of this book (*Protection. A Key to the Code of Witness Intimidation?*), especially the models presented in Table 3.2.

The models were estimated anew with error-free data, and corresponding corrections were made to the text corpus of the book. The second, revised edition of the book results from this work.

The key findings from the analysis stayed the same. In this sense, the damage was restricted. Female victims of intimidation still seem to benefit the most from the feeling of being protected.

Sammanfattning

Polisen och medborgarna. Fördjupade analyser baserade på material från polisbarometern, Vol. I

I enkäten inom polisbarometerprojektet (Police Barometer Survey, PBS, 1999–2022, fortsätter) gjordes en betydande metodisk ändring år 2022. Med början från genomförandet år 2022 baserar sig dessa tvärsnittsstudier, som genomförs med två års mellanrum, på sannolikhetsurval och en kombination av traditionell postenkät och elektronisk enkät. Tidigare enkäter har baserat sig på kvoturval och datorstödda personliga intervjuer (Computer Assisted Personal Interviews, CAPIs). I och med ändringen utvidgades även sampelstorleken i studien. I den senaste studien, hösten 2022, var sampelstorleken 8500. Svarsfrekvensen var 47,6 % (4044/8500). I tidigare tvärsnittsstudier hade cirka 1000 personer intervjuats i respektive studie.

Till följd av den metodiska lösningen med sannolikhetsurval står materialet i den nya typen av studie på en statistiskt betraktat solid bas. Det ger många möjligheter till vidare vetenskapliga studier. I den här boken behandlas några av dessa nya möjligheter. Boken innehåller tre fördjupade analyser som alla baserar sig på material från polisbarometerstudien 2022. Efter denna bok följer en andra volym av likartade forskningsmässiga essäer (II) under 2025.

Den första artikeln analyserar *Den offentliga sektorns sparåtgärder och medborgarnas förtroende för polisens verksamhet (Public Austerity Programs and Citizens' Trust in the Operation of the Police*). Nedskärningarna som riktades mot polisväsendet i Finland var betydande under en period från början av 2010-talet till mitten av decenniet. Antalet poliser minskade med cirka 7–9 procent från 2008 till 2017, beroende på hur minskningen beräknas. Antalet poliser har fortfarande inte återgått till 2008 års nivå i alla avseenden (vid utgången av statistikåret 2023). Det finns teoretiska skäl att anta att nedskärningar av denna omfattning har negativa konsekvenser för mängden tjänster som polisen producerar och därmed även på tillgången till polistjänster. Tidigare forskningsmässiga bevis på detta har varit kvantitativa till sin natur. I det nya PBS 2022-materialet kan konsekvenserna nu iakttas även med hjälp av kvalitativt material. I det nya materialet ställdes en öppen fråga till respondenterna om förtroendet för polisen. Enligt en standardrapport från

polisbarometern (Ministry of the Interior, 2023)[5] var den vanligaste orsaken till respondenternas misstro mot polisens verksamhet kanske något överraskande polisens resursbrist. Cirka 12,9 % av de personer som svarade på frågan pekade på en resursbrist som orsak till deras misstro (”polisens resursbrist”, ”det finns för få poliser”, ”polisens anslag är för små” osv.).

Författarna till artikeln analyserade och omkodade hela det kvalitativa materialet i den senaste polisbarometerstudien (N = 2302 öppna svar/textposter) för att kontrollera antalet poster där respondenterna hänvisade till polisens brist på resurser som orsaken till misstro mot polisens verksamhet. Författarna använde samma material och samma klassificeringskriterier som forskarna i inrikesministeriets standardrapport (Ministry of the Interior, 2023). Enligt den slutliga bedömningen i den nya studien hänvisade cirka 12,3 % av respondenterna till brist på resurser som en anledning till deras misstro mot polisens verksamhet. Dessutom granskade författarna andelen respondenter som hänvisade till polisens resursbrist och ett (eller flera) av polisens fyra olika serviceområden *som sådana serviceområden som lider av* resursbrist: polisens tillståndstjänster, trafikövervakning, brottsutredning eller övervaknings- och alarmfunktioner. Artikeln avslutas med en detaljerad beskrivande översikt över de öppna svaren som utarbetats per serviceområde.

Författarnas allmänna bedömning kom nära den ursprungliga bedömningen i inrikesministeriets standardrapport, vilket bekräftade riktigheten hos de ursprungliga slutsatserna. Med andra ord ser det ut som att en oro över polisens resurser är en av de faktorer som påverkar medborgarnas misstro mot polisens verksamhet, kanske den viktigaste av dessa faktorer.

Serviceområdesspecifika uppskattningar visade att respondenterna främst är oroade över tjänsterna inom brottsutredning och övervaknings- och alarmfunktioner snarare än tillståndstjänsterna eller tjänsterna inom trafikövervakningen. Författarna påpekar att skillnaderna mellan polisens olika serviceområden är ännu större, om de betraktas i förhållande till medborgarnas poliskontakter inom respektive serviceområde. Medborgarnas årliga antal poliskontakter är mycket större inom tillståndstjänster än inom de övriga serviceområdena, men bristen på resurser observerades främst på annat håll – inom brottsutredning och övervaknings- och alarmfunktioner.

[5] Ministry of the Interior (2023). *Poliisibarometri 2022. Kansalaisten arviot poliisin toiminnasta ja Suomen sisäisen turvallisuuden tilasta*. Sisäministeriö, Helsinki.

I den andra artikeln analyserades den mörka sidan av brott som inte anmäls, dvs. brott som inte anmäls på grund av rädsla för hämndaktioner (*The Dark Side of the Dark Figure of Crime. A Study of Victims Who Leave Crimes Unreported Out of Fear of Reprisal*). Materialet PBS 2022 omfattade 121 personer som hade utsatts för ett brott och som hade låtit bli att anmäla minst ett brott på grund av rädsla för hämndaktioner (fall av att bli offer för ett brott under hela livstiden). Författarna till artikeln ställde en enkel fråga: hur ska man karakterisera dessa offer för ett brott? Mer exakt, vilka är deras huvudsakliga demografiska egenskaper, ålder och kön, jämfört med andra personer som har blivit offer för ett brott? Är de ekonomiskt svagare, eller välställda när man granskar deras utbildning, ställning på arbetsmarknaden och bruttoårsinkomst? I vilken polisinrättnings område finns det relativt sett mest av dem?

Dessutom innehöll artikeln en forskningsfråga baserad på teoretisk härledning. Vilken är verkningen av tidigare livserfarenheter på att brott lämnas oanmälda på grund av rädsla? Mer exakt uttryckt, om en person tidigare i livet blivit offer för ett våldsbrott, förebådar det fenomenet – att bli offer för misshandel, sexualbrott eller väpnat hot under livet? Baserat på de teorier som Amos Tversky och Daniel Kahneman utvecklade på 1970-talet (the prospect theory,[6] the theory of availability heuristic[7]) antog författarna hypotesen att underlåtenhet att anmäla brott på grund av rädsla är en funktion av tidigare erfarenheter, särskilt av att ha blivit offer för ett våldsbrott. Detta visade sig också stämma. Att ha blivit utsatt för ett våldsbrott tidigare i livet var uppenbarligen den mest betydande av de faktorer med hjälp av vilka underlåtenhet att anmäla på grund av rädsla förklarades i studiens modeller.

I den tredje artikeln analyserades hot och påtryckningar mot personer som var målsägande (den person som utsattes för brottet) eller vittnen (*Protection. A Key to the Code of Witness Intimidation?*). Det primära föremålet för intresse i denna studie var huruvida personer som blivit föremål för hot anmäler hotet till polisen. Vi kan anta att två olika faktorer påverkar beredvilligheten hos brottsoffer och vittnen att anmäla brottet. Båda har ett samband med förtroendet gentemot polisen. Om personer som är föremål för hot litar på polisens förmåga att skydda människor från våld i situationer som kännetecknas av allvarliga hot, såsom dödshot, och om de litar på polisens procedurella rättvisa, kan deras

[6] Kahneman, D. & Tversky, A. (1979). Prospect Theory: An Analysis of Decision Under Risk. *Econometrica*, 47(2), 263–292.

[7] Tversky, A. & Kahneman, D. (1973). Availability: A Heuristic for Judging Frequency and Probability. Cognitive Psychology, 5(2), 207–232.

anmälningsvillighet antas vara större än i genomsnitt. Författarna testade de två hypoteserna med hjälp av PBS-materialet och variabelserier som ursprungligen utvecklats inom projektet Euro-Justis (2008–2011) (variabel för skydd mot våld, variabler för procedurell rättvisa). Variabelserierna utvecklades i projektet Euro-Justis för genomförandet av European Social Survey 2010.

Hypotesen om upplevelsen av polisens procedurella rättvisa fick inte understöd av ett enda av de bakgrundsvariabelspecifika gruppernas gruppinterna icke-parametriska tester som estimerades i studien. Hypotesen om upplevelsen av polisens förmåga att skydda människor från våld fick understöd av ett test som estimerades i kvinnornas delmaterial, men inte av gruppspecifika tester för de övriga grupperna. De kvinnor som anmält hot mot dem hade klart högre förtroende för polisens förmåga att skydda människor mot våld än de kvinnor som inte hade anmält hotelser. Med andra ord ser det ut som att särskilt kvinnor som blivit föremål för hot har fördel av en känsla att de kan skyddas.

Material

Materialet i polisbarometerstudien (data), inklusive deras historia, beskrivs utförligt i inrikesministeriets standardrapport (2023, ss. 31–44). Artiklarna i denna bok ger dessutom en detaljerad beskrivning av deras egna dataundergrupper. Vi granskar inte materialets egenskaper i dessa inledande anteckningar. Några ytterligare aspekter av materialet förtjänar dock att noteras här.

Materialet i polisbarometerstudien är värdefullt eftersom det kombinerar perspektivet av brottsofferutredningar (t.ex. National Crime Victimization Survey NCVS i USA) med perspektivet av studier av medborgarnas poliskontakter (t.ex. Police-Public Contact Survey PPCS i USA), i stor utsträckning på samma sätt som i Sveriges nationella trygghetsundersökning (Nationella Trygghetsundersökningen NTU). Detta innebär bland annat att forskare som använder detta material inte behöver genomgå den mödosamma och även osäkra och riskabla processen i vilken det är nödvändigt att kombinera materialen (se t.ex. Slocum, 2018, som använder både NCVS- och PPCS-material i sin egen studie).[8]

[8] Slocum, L.A. (2018). The Effect of Prior Police Contact on Victimization Reporting: Results from the Police– Public Contact and National Crime Victimization Surveys. *Journal of Quantitative Criminology,* 34(2), 535–589.

Sampelstorleken för polisbarometerstudien är blygsam jämfört med praktiskt taget alla andra offer- och poliskontaktstudier, såsom NCVS, PPCS, NTU eller brottsofferstudier i England och Wales (Crime Survey for England and Wales CSEW). Kvaliteten på forskningsmaterialet skiljer sig dock inte från dessa andra studier. På förslag av Polisyrkeshögskolan (Polisyrkeshögskolan är planeringspartner till PBS-projektet) har inrikesministeriet beslutat att från och med studien 2022 ska insamlingen av forskningsmaterialet och beräknandet av materialets analysvikter utföras av Statistikcentralen (datainsamlingspartner för PBS-projektet).

Statistikcentralen använde i datainsamlingen och det slumpmässiga urvalet befolkningsdatabasen som upprätthålls av Myndigheten för digitalisering och befolkningsdata, och kompletterade de uppgifterna med sitt eget material. Analysvikter som beräknats vid Statistikcentralen används i alla analyser i boken.

Tack och arbetsfördelning

Vi vill tacka inrikesministeriet för koordineringen och finansieringen av polisbarometerforskningsprojektet. Utan ministeriet skulle projektet inte existera. Framför allt vill vi tacka Emilia Hämäläinen, specialsakkunnig vid ministeriet. Ett utmärkt utfört jobb! Vi vill också tacka experterna på Statistikcentralen för deras idoga arbete med projektet. Statistikcentralen ansvarade för datainsamling till materialet, förberedelse av materialet för forskningsanvändning och utarbetandet av materialets viktkoefficienter. Projektet hade inte varit möjligt utan överaktuarie Johanna Koivula, överaktuarie Henna Attila och specialforskare Pauli Ollila. Vi vill ytterligare rikta ett tack till bokens referensgranskare. Detta är inte ett rutinmässigt tack utan det kommer från hjärtat. Under vår egen forskarkarriär har vi sällan stött på referentgranskningsarbete av en lika hög nivå.

Författarna av boken har gemensamt planerat och redigerat de två första volymerna av verket “The Police and the Public”. Materialet i huvudkapitel 1 i boken har först analyserats självständigt av båda forskarna, så att Jenita Rauta och Matti Vuorensyrjä separat analyserade hela materialet, och sedan i slutet av analysen som en gemensam analys inklusive slutsatser. Matti Vuorensyrjä har svarat för att skriva bokens textkorpus i sin helhet.

Andra, reviderade upplagan

I februari 2025 upptäcktes ett fel i det material som Polis Barometer Survey -projektet fått från Statistikcentralen (PBS, 2022). Felet påverkade kapitel 3 i den här boken (*Protection. A Key to the Code of Witness Intimidation?*), särskilt de modeller som presenteras i Tabell 3.2.

Modellerna beräknades på nytt med felfria data, och motsvarande korrigeringar gjordes i bokens textkorpus. Den andra, reviderade upplagan av boken är resultatet av detta arbete.

De viktigaste resultaten från analysen förblev desamma. I detta avseende var skadan begränsad. Kvinnliga offer för hot verkar fortfarande ha mest nytta av känslan av att vara skyddad.

Tiivistelmä

Poliisi ja kansalaiset. Poliisibarometriaineistoon perustuvia syventäviä analyyseja, Vol. I

Poliisibarometriprojektin kyselytutkimuksessa (Police Barometer Survey, PBS, 1999–2022, jatkuu) tehtiin merkittävä menetelmällinen muutos vuonna 2022. Vuoden 2022 toteutuksesta lähtien nämä kahden vuoden välein toteutettavat poikkileikkaustutkimukset perustuvat satunnaisotantaan ja perinteisen postikyselyn ja sähköisen kyselyn yhdistelmään. Aiemmat kyselytutkimukset ovat perustuneet kiintiöpoimintaan ja tietokoneavusteisiin henkilökohtaisiin haastatteluihin (Computer Assisted Personal Interviews, CAPIs). Uudistuksen myötä myös tutkimuksen otoskoko laajeni. Uusimmassa tutkimuksessa, syksyllä 2022, otoskoko oli 8500. Vastausosuus oli 47,6 % (4044/8500). Aiemmissa poikkileikkaustutkimuksissa oli haastateltu noin 1000 henkilöä kussakin.

Satunnaisotannan menetelmällisen ratkaisun vuoksi uudenmuotoisen tutkimuksen aineisto on tilastollisesti vankalla pohjalla. Se tarjoaa monia mahdollisuuksia tieteelliseen jatkotutkimukseen. Tässä kirjassa tartutaan muutamiin näistä uusista mahdollisuuksista. Kirjassa on kolme syventävää analyysia, jotka kaikki perustuvat vuoden 2022 poliisibarometritutkimuksen aineistoon. Tätä kirjaa seuraa vielä toinen samanlaisten tutkimuksellisten esseiden volyymi (II) vuonna 2025.

Ensimmäisessä artikkelissa analysoidaan *Julkisen sektorin säästötoimia ja kansalaisten luottamusta poliisin toimintaan* (*Public Austerity Programs and Citizens' Trust in the Operation of the Police*). Poliisitoimeen kohdistuneet supistukset Suomessa olivat huomattavia 2010-luvun alusta vuosikymmenen puoleen väliin ulottuvalla jaksolla. Poliisien määrä väheni noin 7–9 %:lla vuodesta 2008 vuoteen 2017, riippuen siitä millä tavoin vähennys lasketaan. Poliisien määrä ei ole vieläkään kaikilta osin palautunut vuoden 2008 tasolle (tilastovuoden 2023 loppuun mennessä). On teoreettisia syitä olettaa, että tämän mittaluokan supistuksilla on kielteisiä vaikutuksia poliisin tuottamien palveluiden määrään ja siten myös poliisipalvelujen saatavuuteen. Aiempi tutkimuksellinen näyttö tästä on ollut luonteeltaan määrällistä. Uudessa PBS 2022 -aineistossa vaikutus voidaan havaita nyt myös laadullisen aineiston avulla. Uudessa aineistossa vastaajilta kysyttiin avoin kysymys luottamuksesta poliisin toimintaan. Polii-

sibarometrin vakioraportin mukaan (Ministry of the Interior, 2023)[9] yleisin syy poliisin toimintaa kohtaan koettuun epäluottamukseen vastaajien keskuudessa oli, ehkä hieman yllättävästi, poliisin resurssivaje. Noin 12.9 % tähän kysymykseen vastanneista henkilöistä viittasi resurssivajeeseen epäluottamuksensa syynä (”poliisin resurssivaje”, ”poliiseja on liian vähän”, ”poliisin määrärahat ovat liian pienet”, jne.).

Artikkelin kirjoittajat analysoivat ja koodasivat uudelleen viimeisimmän poliisibarometritutkimuksen laadullisen aineiston kokonaisuudessaan (N = 2302 avointa vastausta / tekstitietuetta), tarkistaakseen niiden tietueiden määrän, joissa vastaajat viittasivat poliisin resurssivajeeseen poliisin toimintaa koskevan epäluottamuksen syynä. Kirjoittajat käyttivät samaa aineistoa ja ytimeltään samoja luokittelukriteerejä kuin tutkijat sisäministeriön vakioraportissa (Ministry of the Interior, 2023). Uuden tutkimuksen lopullisen arvion perusteella noin 12.3 % vastaajista viittasi resurssivajeeseen poliisin toimintaa koskevan epäluottamuksensa syynä. Lisäksi kirjoittajat tarkastelivat sellaisten vastaajien osuutta, jotka viittasivat poliisin resurssivajeeseen ja yhteen (tai useampaan) poliisin neljästä eri palvelualueesta *sellaisina palvelualueina*, jotka kärsivät resurssiniukkuudesta: poliisin lupapalvelut, liikennevalvonta, rikostorjunta tai valvonta- ja hälytystoiminta. Artikkeli päättyy avovastausten yksityiskohtaiseen kuvailevaan katsaukseen, joka on laadittu palvelualuekohtaisena.

Kirjoittajien yleinen arvio osui lähelle sisäministeriön vakioraportin alkuperäistä arviota, varmistaen näin alkuperäisten päätelmien oikeellisuuden. Näyttää toisin sanoen siltä, että huoli poliisin resursseista on yksi niistä tekijöistä, jotka vaikuttavat kansalaisten poliisin toimintaa kohtaan tuntemaan epäluottamukseen, ehkä tärkein näistä tekijöistä.

Palvelualuekohtaiset arviot osoittivat, että vastaajat ovat huolissaan ensisijaisesti rikostutkinnan ja valvonta- ja hälytystoiminnan palveluista, eivät niinkään lupapalveluista, eivätkä liikennevalvonnan palveluista. Artikkelin kirjoittajat huomauttavat, että erot poliisin eri palvelualueiden välillä ovat vielä suurempia, jos niitä tarkastellaan suhteessa kansalaisten palvelualuekohtaisiin poliisikontakteihin. Kansalaisten poliisikontaktien vuosittainen määrä on lupapalve-

[9] Ministry of the Interior (2023). *Poliisibarometri 2022. Kansalaisten arviot poliisin toiminnasta ja Suomen sisäisen turvallisuuden tilasta.* Sisäministeriö, Helsinki.

luissa paljon suurempi kuin muilla palvelualueilla, silti resurssivajeita havaittiin pääasiassa toisaalla – rikostutkinnassa ja valvonta- ja hälytystoiminnassa.

Toisessa artikkelissa analysoidaan ilmoittamatta jäävien rikosten pimeää puolta eli kostotoimien pelon vuoksi ilmoittamatta jääviä rikoksia (*The Dark Side of the Dark Figure of Crime. A Study of Victims Who Leave Crimes Unreported Out of Fear of Reprisal*). PBS 2022 -aineistossa oli 121 sellaista rikoksen uhriksi joutunutta henkilöä, jotka olivat jättäneet ainakin yhden rikoksen ilmoittamatta kostotoimien pelon vuoksi (rikoksen uhriksi joutumisen tapaukset koko elämän ajalta). Artikkelin kirjoittajat esittivät yksinkertaisen kysymyksen: miten luonnehtia näitä rikoksen kohteeksi joutuneita henkilöitä? Tarkemmin sanottuna, mitkä ovat heidän keskeiset väestölliset piirteensä, ikä ja sukupuoli, verrattuna muihin rikoksen kohteeksi joutuneisiin henkilöihin? Ovatko he taloudellisesti heikompiosaisia, vai hyvin toimeentulevia, kun tarkastellaan heidän koulutustaan, työmarkkina-asemaansa ja bruttovuositulojaan? Millä poliisilaitosalueella heitä on suhteellisesti eniten?

Lisäksi artikkelissa oli teoreettiseen päättelyyn perustuva tutkimuskysymys. Mikä on aiempien elämänkokemusten vaikutus pelosta aiheutuvaan rikosten ilmoittamatta jättämiseen? Tarkemmin sanottuna, ennustaako väkivaltarikoksen kohteeksi joutuminen, aiemmin elämän aikana, tätä ilmiötä – pahoinpitelyn, seksuaalirikoksen tai aseellisen uhkauksen kohteeksi joutuminen elämän aikana? Amos Tverskyn ja Daniel Kahnemanin 1970-luvulla kehittämiin teorioihin perustuen (the prospect theory,[10] the theory of availability heuristic[11]) kirjoittajien hypoteesi oli, että pelosta aiheutuva rikosten ilmoittamatta jättäminen on aiempien kokemusten, etenkin väkivaltarikoksen kohteeksi joutumisen kokemusten, funktio. Näin myös osoittautui olevan. Väkivaltarikoksen kohteeksi joutuminen elämän aikana oli selvästi merkittävin niistä tekijöistä, joiden avulla tutkimuksen malleissa selitettiin pelosta aiheutuvaa ilmoittamatta jättämistä.

Kolmannessa artikkelissa analysoitiin sellaista uhkailua ja painostusta, joka on kohdistunut rikosprosessissa asianomistajina (rikoksen uhrin asemassa oleva henkilö) tai todistajina toimineisiin henkilöihin (*Protection. A Key to the Code of*

[10] Kahneman, D. & Tversky, A. (1979). Prospect Theory: An Analysis of Decision Under Risk. *Econometrica*, 47(2), 263–292.

[11] Tversky, A. & Kahneman, D. (1973). Availability: A Heuristic for Judging Frequency and Probability. *Cognitive Psychology*, 5(2), 207–232.

Witness Intimidation?). Ensisijaisena kiinnostuksen kohteena tässä tutkimuksessa oli kysymys siitä, ilmoittavatko uhkailun kohteeksi joutuneet henkilöt uhkailutapauksesta poliisille. Kahden eri tekijän voidaan olettaa vaikuttavan rikoksen uhrien ja todistajien ilmoittamisalttiuteen. Ne molemmat kytkeytyvät poliisia kohtaan tunnettuun luottamukseen. Jos uhkailun kohteeksi joutuneet luottavat poliisin kykyyn suojella ihmisiä väkivallalta sellaisissa tilanteissa, joita luonnehtii vakava uhka, kuten tappouhkausten tapaukset, ja jos he luottavat poliisin proseduraaliseen oikeudenmukaisuuteen, heidän ilmoitusalttiutensa voi olettaa olevan keskimääräistä suuremman. Kirjoittajat testasivat näitä kahta hypoteesia PBS-aineiston ja Euro-Justis projektissa (2008–2011) alun perin kehitettyjen muuttajasarjojen avulla (väkivallalta suojaamisen muuttuja, proseduraalisen oikeudenmukaisuuden muuttujat). Muuttujasarjat kehitettiin Euro-Justis -projektissa European Social Surveyn vuoden 2010 toteutuksen käyttöön.

Hypoteesi, joka koski kokemusta poliisin proseduuralisesta oikeudenmukaisuudesta, ei saanut tukea yhdestäkään niistä taustamuuttujakohtaisten ryhmien ryhmänsisäisistä ei-parametrisista testeistä, jotka tutkimuksessa estimoitiin. Hypoteesi, joka koski kokemusta poliisin kyvystä suojella ihmisiä väkivallalta, sai tukea naisten osa-aineistossa estimoidusta testistä, mutta ei muiden ryhmien ryhmäkohtaisista testeistä. Naisilla, jotka olivat ilmoittaneet heihin kohdistuneesta uhkailusta, oli selvästi suurempi luottamus poliisin kykyyn suojella ihmisiä väkivallalta, kuin naisilla, jotka eivät ilmoittaneet uhkailusta. Näyttää toisin sanoen siltä, että erityisesti uhkailun kohteeksi joutuneet naiset hyötyvät tunteesta, että heitä kyetään suojelemaan.

Aineisto

Poliisibarometritutkimuksen aineisto, mukaan lukien aineiston historia osana hanketta, on kuvattu kattavasti sisäministeriön vakioraportissa (Ministry of the Interior, 2023, ss. 31–44). Lisäksi tämän kirjan artikkeleissa kuvataan yksityiskohtaisella tarkkuudella niissä käytetyt osa-aineistot. Tässä ei enää erikseen palata tutkimuksen aineistokuvaukseen. Eräitä aineiston piirteitä on ehkä kuitenkin hyvä mainita.

Poliisibarometritutkimuksen aineisto on arvokas, koska siinä uhritutkimusten (kuten National Crime Victimization Survey NCVS Yhdysvalloissa) näkökulma yhdistyy kansalaisten poliisikontaktitutkimusten (kuten Police–Public Contact Survey PPCS Yhdysvalloissa) näkökulmaan, suurelta osin samaan tapaan kuin

Ruotsin kansallisessa turvallisuustutkimuksessa (Nationella Trygghetsundersökningen NTU). Tämä tarkoittaa muun muassa sitä, että tutkijat, jotka käyttävät tätä aineistoa, eivät joudu siihen työlääseen ja myös epävarmaan ja riskipitoiseen prosessiin, jossa aineistoja täytyy yhdistellä toisiinsa (ks. esim. Slocum, 2018, joka omassa tutkimuksessaan käyttää sekä NCVS että PPCS aineistoa).[12]

Poliisibarometritutkimuksen otoskoko on vaatimaton, verrattuna käytännössä kaikkiin muihin uhritutkimuksiin ja poliisikontaktitutkimuksiin, kuten NCVS, PPCS, NTU, tai Englannin ja Walesin rikosuhritutkimus (Crime Survey for England and Wales CSEW). Tutkimusaineiston laatu ei kuitenkaan eroa näistä muista tutkimuksista. Poliisiammattikorkeakoulun ehdotuksesta (Poliisiammattikorkeakoulu on PBS-hankkeen suunnittelukumppani) sisäministeriö on päättänyt, että vuoden 2022 tutkimuksesta alkaen tutkimusaineiston kerää ja aineiston analyysipainot laskee Tilastokeskus (PBS-hankkeen tiedonkeruukumppani).

Tilastokeskus käytti tiedonkeruussa ja satunnaisotannassa Digi- ja väestötietoviraston väestötietokantaa, täydentäen näitä tietoja omien aineistojensa avulla. Tilastokeskuksessa laskettuja analyysipainoja käytetään kaikissa tämän kirjan analyyseissa.

Kiitokset ja työnjako

Haluamme kiittää sisäministeriötä poliisibarometritutkimushankkeen koordinoinnista ja rahoituksesta. Ilman ministeriötä hanketta ei olisi. Erityisesti haluamme kiittää ministeriön erityisasiantuntija Emilia Hämäläistä. Aivan erinomaista työtä! Haluamme kiittää myös Tilastokeskuksen asiantuntijoita uutterasta työstä hankkeen hyväksi. Tilastokeskus vastasi aineiston tiedonkeruusta, aineiston valmistelusta tutkimuskäyttöön ja aineiston painokerrointen laadinnasta. Hanke ei olisi ollut mahdollinen ilman yliaktuaari Johanna Koivulaa, yliaktuaari Henna Attilaa ja erikoistutkija Pauli Ollilaa. Vielä haluamme kiittää kirjan vertaisarvioijia. Nämä eivät ole rutiiniluonteiset kiitokset, vaan tulevat sydämestä. Olemme harvoin omalla tutkijanurallamme kohdanneet näin korkeatasoista vertaisarviointityötä.

[12] Slocum, L.A. (2018). The Effect of Prior Police Contact on Victimization Reporting: Results from the Police– Public Contact and National Crime Victimization Surveys. *Journal of Quantitative Criminology*, 34(2), 535– 589.

Kirjan kirjoittajat ovat yhdessä suunnitelleet ”The Police and the Public” -teoksen kaksi ensimmäistä volyymia. Pääluvun 1 aineisto tässä kirjassa on analysoitu ensin kummankin tutkijan toimesta riippumattomasti, niin että Jenita Rauta ja Matti Vuorensyrjä analysoivat koko aineiston erikseen, ja sitten, analyysin loppuvaiheessa, yhteisenä analyysina, päätelmineen. Kirjan tekstikorpuksen kirjoittamisesta kokonaisuudessaan on vastannut Matti Vuorensyrjä.

Toinen, korjattu painos

Helmikuussa 2025 Poliisibarometri-projektin Tilastokeskukselta saamassa aineistossa havaittiin virhe (PBS, 2022). Virhe vaikutti tämän kirjan lukuun 3 (*Protection. A Key to the Code of Witness Intimidation?*), erityisesti taulukossa 3.2 esitettyihin malleihin.

Mallit estimoitiin uudelleen virheettömällä aineistolla ja kirjan tekstikokonaisuuteen tehtiin vastaavat korjaukset. Kirjan toinen, korjattu painos on tämän työn tulos.

Analyysin keskeiset havainnot pysyivät ennallaan. Tässä mielessä virheestä aiheutuneet vahingot olivat rajattuja. Naiset, jotka joutuvat uhkailun kohteeksi, näyttävät edelleen hyötyvän eniten siitä kokemuksesta, että heitä kyetään suojelemaan.

Contents

1. Public Austerity Programs and Citizens' Trust in the Operation of the Police

Matti Vuorensyrjä & Jenita Rauta

Abstract

Background and the research questions: Downsizing in the Finnish police in the early to mid-2010s was noticeable. The number of police officers contracted by 7–9% from 2008 to 2017, depending on the way one estimates the drop. The number of police officers has not fully recovered to the level of 2008, even today. There are theoretical reasons to believe that downsizing of such a magnitude has detrimental effects on the number of outputs of the police, and thus also on the accessibility of police services. There are, indeed, empirical findings, according to which downsizing has affected citizens' trust in the operation of the police (Ministry of the Interior, 2023). In this study we recoded and reanalyzed the qualitative data used in the Ministry's study, with essentially the same coding criteria, to confirm their findings. Is the lack of trust in the operation of the police a function of perceived resource shortages of the police, in view of the respondents of the PBS? If so, how do the respondents conceive of the effects of scarcity on the different domains of services of the police—permits and licenses services, traffic enforcement, criminal investigation, and surveillance and emergency operations?

Data: The data of the study are qualitative. They derive from the latest Police Barometer Survey (PBS) conducted in the autumn of 2022. The survey targeted the adult population (15–75) of mainland Finland. The size of the random sample was 8,500, with 47.6% response rate and N = 4,044, of whom 2,302 (56.9%) persons answered the open-ended question on trust in the operation of the police. The answers to this question constitute the data of this study.

Methods: The study is based on content analysis and Krippendorf's alfa reliability tests.

Findings: An estimated 12.3% of the respondents who answered the open-ended question referred to resource shortages of the police as a reason for their distrust in the operation of the police, essentially confirming the earlier estimate, 12.9%, of the Ministry of the Interior (2023). References to resource shortages in criminal investigation and in surveillance and emergency operations outnumbered references to resource shortages in permits and licenses function and in traffic enforcement.

Limitations: For reasons of data protection (anonymity), the qualitative data could not be combined with the other data of the PBS. Hence, it was not possible to estimate whether or not the respondents in the qualitative data set represent the respondents in the full data set by the criteria of background variables, and, thus, whether or not the findings could be generalized to the target population.

Keywords: austerity, downsizing, budget cut, police, surveillance and emergency operations, criminal investigation, traffic enforcement, permits and licenses, productivity, cost disease theory, management reforms

1.1 Background and the Research Questions

1.1.1 Trust in the Operation of the Police

Citizens' trust in the operation of the police is at a very high level in Finland. Approximately 91% of the respondents in the latest Police Barometer Survey (PBS) answered that they trust "a lot" or "quite a lot" in the operation of the police, only 9% of the respondents opting for the normatively negative alternatives in the scale. There is robust reliability to this observation over time as well as in international comparative perspective. The level of trust has been approximately the same for more than 20 years now—the period covered by the Finnish PBS cross-section studies. Comparative findings from the European Social Surveys corroborate the findings from national surveys: the Finns have had and continue to have an exceptionally strong confidence in the operation of the police (Ministry of the Interior, 2023, pp. 45–76, pp. 153–159).

Procedural justice may be expected to be one of the key factors of trust in the institutions of the judicial system; the police and the courts. If citizens are treated with respect, and if the police and the courts are just and equally fair to all people, they may be expected to earn the confidence of the citizenry and to be considered as legitimate users of public authority. If and in so far as this is not the case, trust and legitimacy may be expected to erode (Tyler, 1990/2006; Jackson *et al.*, 2011a; 2011b; 2012; Bottoms & Tankebe, 2012; 2021; Hough *et al.*, 2013; Hough, 2021).

The assumptions have been largely confirmed by empirical evidence. Finland may actually be one of the primary examples of the validity of the procedural justice hypothesis. Law-abiding principles and behavior, confidence in the procedural justice of the key judicial institutions, and the rule of law as a part of firmly liberal democratic regime, are all exceptionally strong and robust in Finland (World Bank, 2023; Ministry of the Interior, 2023; Vuorensyrjä, 2023b).

Qualitative data from the latest PBS 2022 tell the same story. For the first time in the history of the PBSs, the respondents were asked about trust in the operation of the police as an open-ended question. This was the last question in the survey.

> "Why do you trust or do not trust the operations of Finnish police? Which aspect or aspects most influence trust?"

There were 4,044 respondents in total in the latest PBS, 2,302 (56.9%) of whom answered the open-ended question. The importance of procedural justice was reflected in both the positive (to trust) and the negative (not to trust) reasons mentioned by the respondents.

Citizens' experience of respectful way of treating people by the police (#2) and perceived procedural justice of the police (#3) were among the three positive reasons with the highest prevalence. More specifically, according to the standard report published by the Ministry of the Interior (2023), the three were,

1. Simple, non-specific, general expression of trust in the operation of the police (28.1% of the 2,302 respondents mentioned trust in general; "Well, I do trust in the police (…)," "I trust because there is no reason not to," "I trust and respect the Finnish police (…)," *etc.*);
2. Matter-of-fact attitude and behavior of the police in day-to-day encounters with citizens (the police having been "decent," "respectful," and their use of force having been "well-controlled;" often "asiallinen" and "saklig" in Finnish and Swedish) (14.6%);
3. Procedural justice of the police ("justice," "fairness," "neutrality," "honesty," "equality," and "integrity" of the Finnish police) (13.1%) (Ministry of the Interior, 2023, p. 72, see also pp. 69–76; note that the observations in these categories were partly overlapping; a record by a single respondent could refer to many different reasons to trust/not to trust in the operation of the police).

Disrespectful behavior of the police (#2) and perceived unfairness of the police (#5) were, correspondingly, among the five negative reasons with the highest prevalence. The negative reason with the highest prevalence (#1) was a bit of a surprise, however, in the Ministry's study. The respondents referred to

1. Lack of resources of the police—the lack of financial or other resources of the police, the number of police officers being too low, *etc.*—as the most important reason for the lack of trust in the operation of the police (12.9% of the 2,302 respondents). They also referred to;
2. Disrespectful or indiscreet behavior of the police ("disparaging" attitude towards the citizen-clients of the police, "not taking crime reports seriously," *etc.*) (5.8%);
3. Citizens' crime reports going unattended (5.5%);

4. The lack of police visibility (5.0%);
5. Unfairness of the police (other than racism, which had a category of its own) (5.0%);
6. Cases of disorderly behavior and vandalism being unaddressed by the police; such notions having often been accompanied by doubts about the emergency response time of the police (4.1%);
7. Services of the police being insufficient in the sparsely populated areas of the country (3.6%) (Ministry of the Interior, 2023, p. 72).

Perceived lack of resources of the police (#1) was coded as a distinct category in the Ministry's study, but it was undoubtedly reflected in several other negative categories, too. The other ideas were, after all, that citizens' crime reports tend to be rejected or to go unattended by the police (#3); that there is no police visibility in respondent's own neighborhood (#4); that cases of disorderly behavior and vandalism are unaddressed by the police (#6); and that police services in the sparsely populated areas of the country are inaccessible, or otherwise insufficient (#7).

On second thought, the regularity (#1) detected by the Ministry of the Interior (2023) may not be surprising at all. Finland had the lowest ratio of police officers per population (POPP) in Europe in the early 2010s (Eurostat, 2024), perhaps the lowest of such ratios in the world.[1] The police experienced downsizing, nevertheless, during the public austerity program years of the early to mid-2010s. The number of police officers was reduced by approximately 7.7%, from 8,101 police officers in 2008 to 7,474 police officers in 2017, with gradual but not full recovery since then (PolStat, 2024; Figure 1.1). No equivalent reduction in the demand for their services was observed. Quite to the contrary (Kurenmaa, 2018; Karnaranta, 2019).

There are theoretical reasons to believe that such a change affects the number of outputs of the police and thus also the accessibility of police services. According to the so-called cost disease theory, the rate of growth of labor productivity in the legacy frontline duties of the police can be expected to be moderate: labor-saving technological innovations are hard to come by in criminal investigation and in surveillance and emergency operations, and labor productivity tends to grow at a slow pace. In the short term, and even in the medium term, labor productivity may actually be fixed (Baumol, 1967; Baumol et al., 1985; Van Reenen, 1999; Vuorensyrjä, 2018; 2021).

If and in so far as this is actually the case, the number of outputs in the legacy frontline duties of the police is strictly constrained by the number of labor inputs. Lowering the number of labor inputs lowers the number of outputs, and thus weakens the accessibility of police services.[2] There is statistical evidence, and also idiographic, indirect evidence from policy analyses, supporting the theoretical outlook (Van Reenen, 1999; Vuorensyrjä *et al.*, 2016; Kurenmaa, 2018; Karnaranta, 2019; Vuorensyrjä, 2018; 2021; Mansikka-aho, 2021; Kietäväinen *et al.*, 2022; Nykänen, 2022; Ristola & Karnaranta, 2023).

1.1.2 Austerity in Retrospect

Public austerity programs were implemented throughout the Western world in the early 2010s in the aftermath of the subprime mortgage crisis and increased risk of sovereign default in the Eurozone (Greece, in particular, but also Italy, Portugal, Ireland, and Spain were in the danger zone). The police were no exception to the rule. Centralization of forces, stricter control of the operation of the police in the form of performance measurement and management, and downsizing, were all on the agenda (Fyfe *et al.* (eds.), 2013; Holmberg, 2014; den Heyer, 2017; Mansikka-aho, 2021).

Finland went through three major police management reform programs during the period. The first two of these programs (I and II) had their origin in PM Matti Vanhanen's government program from 2003 and in the consequent Productivity Program (PP) of the central government. They were implemented in 2009 (Program I) and in 2010 (Program II). The third program (III) was initiated in the early 2010s as a part of the Productivity and Effectiveness Program (PEP) of the central government, and implemented during 2014–2016.

Taken together, the reform period took eight years (2009–2016). The number of police districts was reduced, first from 90 to 24 (2009), and then from 24 to 11 (2014). Operation in some of the police stations within the districts was discontinued, the decisions having been partly driven by cost savings and partly by the general centralization initiative. The number of police officers, including the number of person-work years of the staff working in surveillance and emergency operations and in criminal investigation, was reduced.

Downsizing was never a priority in the Finnish police management reform programs. In fact, in all three reform programs the goal was in keeping to the

number of police officers in the frontline legacy duties and in securing equal access to and quality of police services for all citizens, irrespective of who they were and where they lived. The programs were also characterized by heavy investments in information technology and in the mobility of the police, partly as novel R&D initiatives and partly as compensatory measures (HE 72/2006; 15/2013; SM, 2007; 2008; 2012; 2013; Mansikka-aho, 2021).

The number of police officers was reduced, anyway, including the number of person-work-years allocated to the frontline legacy duties of the police. The bottom of the cycle was reached in 2017, with gradual but not full recovery since then (Figure 1.1).

A rarely noticed fact is that, the cycle did not result only from the police management reform programs. Part of the explanation is to be found from the reform of the Finnish police recruit education, which took place during the same period of time. There was a gap in the production of new police officers during 2016 that lasted for several months' time, in addition to which the number of junior constables[3] working in police districts was relatively low during 2013–2017[4] (Figure 1.1). Irrespective of the exact reasons for downsizing during the austerity era, it was something very real for both the personnel and the citizen-clients of the police.

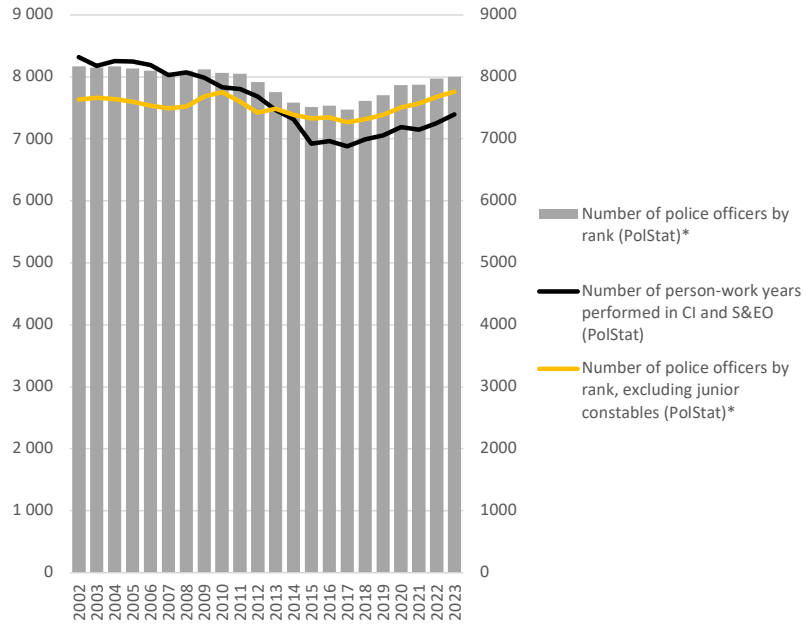

Figure 1.1. The number of police officers by rank, and the number of division-specific person-work years in the legacy frontline duties of the police, 2002–2023**

* Yearly average of the police officer personnel by rank; total funding concept; (junior constables), senior constables, sergeants, inspectors, and police chiefs
** All figures excluding the personnel of the Finnish Security Intelligence Service
CI criminal investigation
S&EO surveillance and emergency operations
Data source: PolStat, 2024

1.1.3 The Blue Dot

Public austerity programs were implemented throughout Europe in the early 2010s, of course, and not only in Finland. Yet it may be said that Finland is truly a unique case. The country entered and exited the period of austerity with the lowest number of police officers per population (POPP) in Europe, perhaps the lowest in the world.[5] Not by coincidence—we are in all likelihood looking at a pair of political economic substitutes here—the very low POPP ratio is combined with the highest rule of law index score in the world (in 2021 Finland ranked #1 among 209 countries in the World Bank Rule of Law Index comparison study; see also, *e.g.*, Kääriäinen, 2018; Nägel & Vera, 2021). With the rule of law index score of 2.06 and the number of police officers per population (per 100,000 inhabitants) of 136.78 in 2021 (132.04 in the bottom of the cycle,

in 2017), Finland inhabits the Southeastern-most corner of the plane in Figure 1.2 (the blue dot).

Finland's dot was nudged lower during the 2010s. Little is known about the operational, behavioral, or cultural consequences of significant downsizing events in such a context, *i.e.*, in the context of the lowest POPP ratio and the strongest commitment to the principle of the rule of law in the world. The scholarly map of the terrain is pitch black. Strong commitment to the rule of law and to liberal democracy may or may not suffice to compensate for the nudge. In the current study, using qualitative data from the latest available PBS conducted in the autumn of 2022, we will analyze the experiences of the citizen-clients of the police at the end point of the long period of austerity.

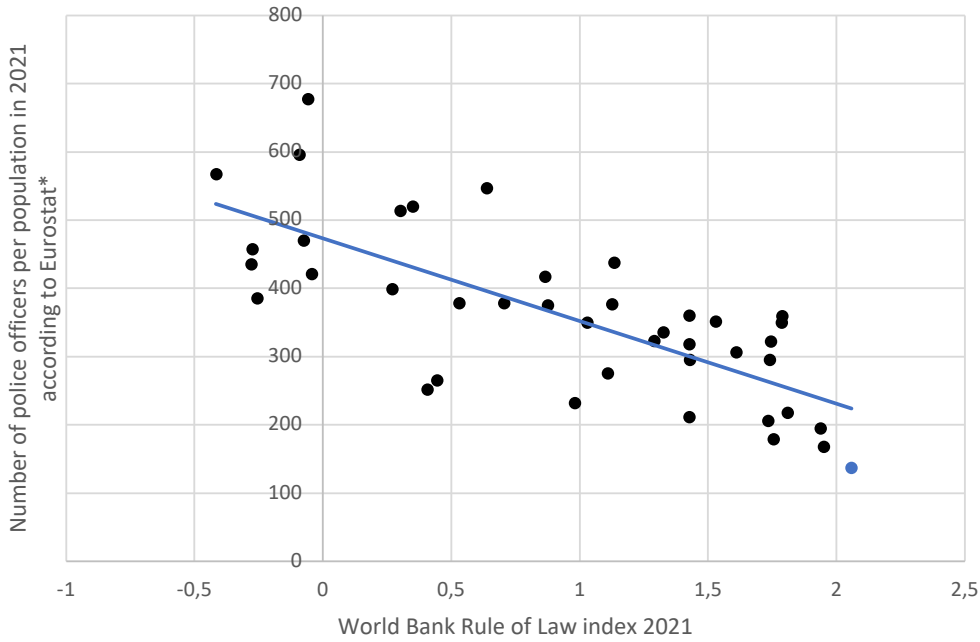

Figure 1.2. The World Bank Rule of Law Index 2021 and the Number of Police Officers Per Population (/100,000 inhabitants) in 2021,* the European Countries[6]

* Eurostat, 2024, the number of police officers per population per 100,000 inhabitants (POPP). POPP was available from 2021 for 31 countries, but it was lacking for ten (10) countries. The latest available values (year) were used for the following countries: France (2019), Italy (2020), Norway (2014), England and Wales (2016), Scotland (2017), Northern Ireland (2017), Bosnia and Herzegovina (2012), North Macedonia (2017), Serbia (2015), and Kosovo (2012).

The rule of law index value was available for all 41 countries, but not separately for England and Wales, Scotland, and Northern Ireland. The value for the UK was used for all of them, instead.

* World Bank, 2023.

1.1.4 The Research Assignment

The current study is exploratory in nature, with no hypotheses of its own. This doesn't mean that there is no theoretical backing to the mechanism that underlies what we observe with the help of the qualitative PBS data. There are some very good reasons to believe that the rate of growth of labor productivity in the frontline legacy duties of the police is low, relative to the rate of growth of labor productivity in, say, manufacturing industries, agriculture, or forestry (*i.e.*, that the core assumption of the cost disease theory is true). It merely means that we are open to what(ever) is observed within the data set, building our conclusions empirically from ground up.

The assignment for the study was fourfold. In the current study,

- Two researchers reanalyzed and recoded the qualitative data from the latest PBS study in their entirety (N = 2,302), in order to confirm the number of records where respondents referred to resource shortages of the police as a reason for not to trust in the operation of the police.
- Relying on two distinct rounds of coding, the researchers then analyzed how many of these records referred to
  a) resource shortages in the permits and licenses function of the police;
  b) resource shortages in traffic enforcement;
  c) resource shortages in criminal investigation, and;
  d) resource shortages in the surveillance and emergency operations of the police, the categories being overlapping (one record may refer to resource shortages in two or more division-specific police services). The rest of the records were labelled as the "other" category, where the respondent referred to resource shortages in general, with no reference to the division-specific functions of the police ("the resources of the police aren't at the level they ought to be," "the number of police officers is way too low," *etc.*).

- Krippendorf alfas were computed for both of the two coding rounds in order to test the reliability of the pairs of independent analyses.
- The records that had been placed in the four division-specific categories of resource shortages (a.–d.) in the semi-quantitative analyses, were then given an in-depth qualitative content analysis.

The study answers two research questions.

1. What is the prevalence of records where the respondents refer to resource shortages of the police as a reason for the lack of trust in the operation of the police? What is the prevalence in general, and what is the prevalence as regards the four division-specific functions of the police (a.–d.)?
2. How do the respondents describe the shortages, in relation to the four different functions or the police? What, exactly, is eroding their trust in the operation of the police?

1.1.5 On the Key Concepts of the Study

In a useful conceptual analysis, Cao (2015) differentiated between the concepts of *trust* and *confidence*. Unlike the concept of *satisfaction*, for example, which is internally oriented (saying something about the subject her- or himself), both of these concepts are externally oriented in the sense that they project towards an external object (the object of trust, the object of confidence). Both concepts involve some amount of risk for the subject, as regards the worthiness of the object *as* an object of trust or confidence. There is uncertainty to the future of the object in this respect, *i.e.*, with respect to its trust- and confidenceworthiness. The risk, according to Cao's analysis, and also according to dictionary definitions of the concepts, is higher in the case of trust than in the case of confidence. Cao even translates *Sicherheit* (also: "certainty," as one of the alternative translations in English) as "confidence" (as in "Vertrauen ist gut, Sicherheit noch besser," Cao, 2015, p. 242).[7]

Cao (2015, p. 242) also refers to *Hart's scale*, according to which—something we could probably call—"reliance" on an object of faith, trust, or confidence, ranges from *faith* with no inferential (rational) nor empirical support, and thus full risk of disappointment as regards the future states of affairs associated with the object of faith *as* an object of faith, to *trust*, with some inferential or empirical support, hence also some risk, to *confidence*, with considerable inferential or empirical support (or both inferential and empirical support), and low risk of disappointment as regards the future states of affairs associated with the object of confidence *as* an object of confidence.

Time is also a factor in differentiating between the concepts of trust and confidence, according to Cao (2015). Confidence, unlike trust, seems to

presuppose time as a *sine qua non* contributing component, for it presupposes recurrent interaction between the subject and the object during which confidence in the object may build up.

Confidence may thus be defined as *subject's trust in the object confirmed by established patterns of interaction between the two*. This is also the way we will employ the concepts in the current paper.

We could actually think of the object of analysis of the current study in these terms. On the face of all available evidence—what they know about the object (the operation of the police)—the subjects (the respondents) are negotiating where they themselves stand in a six-step variant of *Hart's scale*; from [distrust confirmed by strong inferential and empirical evidence] to [distrust confirmed by some evidence] to [non-confirmed naked (loss of) faith] to [trust confirmed by some evidence] to [trust confirmed by strong inferential and empirical evidence].

1.2 Literature Review

Following search terms were used to find earlier scholarly literature on the themata, first more restrictedly, and then extending the enterprise with the help of a series of simpler approaches.

#1 [Police] AND [Trust OR Confidence OR Legitimacy] AND [the latter part of #2 OR #3 OR #4 OR #5]

#2 [Police] AND [Austerity OR Downsizing]

#3 [Police] AND [Budget cut OR Budget deficit]

#4 [Police] AND [Funding]

#5 [Police] AND [Accessibility]

There are literally thousands of studies on citizens' evaluation of the operation of the police, whether we speak of citizens' satisfaction with the police, trust in the police, or confidence in the police, or of the effects of police visibility on citizens' feelings of security, the halo effect of traffic enforcement, or citizens'

evaluation of the legitimacy of the police. The impact of the volume of law enforcement on crime has been analyzed in context of the deterrence theory, and in criminology based on rational analysis more generally (Becker, 1968; Akerlof & Yellen, 1994; Vollaard & Koning, 2009, *etc.*). In procedural justice literature, effectiveness of the police (also: police performance) has been one of the competing predictors of citizens' trust in the police (Tyler, 1990/2006; Jackson et el., 2011a; 2011b; Bottoms & Tankebe, 2012; 2021; Hough, 2021, *etc.*).

Surprisingly few studies, however, have been conducted on the effects of taking police services away from the citizens—on the effects of noticeable one-off budget cuts or significant one-off downsizing events on police services and on customer experiences of the citizen-clients of the police. The studies there are tend to concentrate on some particular aspects of the effects of downsizing on police agencies, such as the effects of downsizing on increased time pressure and stress among police officers (Turnbull & Wass, 2015; Vuorensyrjä *et al*., 2016; Jackman *et al.*, 2021), the effects of budget cuts on the future funding of cold case reviews (Allsop, 2013), the effects of budget cuts on the number of Police Community Support Officers (PCSOs) and on neighborhood policing in general (O'Neill, 2014), and the effects of austerity measures on academic research in the field of police studies (Innes, 2010). Rantatalo *et al.* (2020), for their part, analyze how police detectives manage continued scarcity in the sparsely populated areas of northern Sweden (see also Stassen & Ceccato, 2019).

There are, however, a few studies that have seized the opportunity to such a research design—a situation in which significant budget cuts or downsizing measures have come as exogenous shocks to the affected police agencies and to their citizen-clients. Reference can be made to studies by DeAngelo and Hansen (2014), den Heyer (2017), Ojo *et al.* (2017), and Vuorensyrjä (2018; 2023a), and also to Vollaard and Koning's (2009) and Sindall and Sturgis's (2013; as a closely related review and commentary see also Oosthuizen, 2022) methodologically subtle studies.

1.2.1 Budget Cuts and Downsizing in Law Enforcement

In a survey to 162 local police agencies in Australasia, Canada, and the UK, den Heyer (2017) analyzed the ways in which the agencies responded to the period of fiscal austerity they encountered in the early 2010s. The survey was conducted between October 2013 and February 2014, with 32% response rate

(51/162 local police agencies). Of the participating 51 agencies, 31 (61%) had seen their operating budgets cut since 2007—the year the subprime mortgage crisis hit the world economy. The cuts in budgets were significant, ranging from 5% to 20%.

The most common cost reduction methods adopted by the agencies were, according to den Heyer (2017, pp. 22–25),

1. Reforming or planning to reform the organizational or managerial structure of the agency (63% of the participating agencies having opted for #1 as a cost reduction method);
2. Implementing alternative call handling methods (48%), sometimes even limiting the type of citizens' calls to which police officer or patrol resources were dispatched (18%);
3. Outsourcing or privatizing services (48%);
4. Leaving sworn officer vacancies unfilled (47%);
5. Reducing or planning to reduce the acquisition of vehicles (47%);
6. Consolidating or closing down police stations (35%);
7. Introducing hiring freezes on sworn officers (33%) or on civilian staff (27%);
8. Reducing the office hours accessible to the public (32%);
9. Reducing or considering to reduce attendance at neighborhood meetings (24%), and;
10. Laying off sworn officers (21%).

The production functions of police agencies are labor-intensive world over. The bulk of their budgets go to wages and to other personnel costs. Yet it appears that police agencies have preferred cost reduction methods other than those that involve downsizing. Leaving vacancies unfilled came in fourth (#4), introducing hiring freezes on sworn officers or on civilian staff seventh (#7); and laying off police officers tenth (#10). The list closely resembles the efforts of the European police forces at the time, including the policy measures adopted in Finland (Fyfe *et al.*, 2013).

The police agencies still continued to invest in their operation. Contrary to the cost saving trend, 56% of the agencies had increased their reliance on new technologies, even during the austerity era (den Heyer, 2017, p. 23).

The project conducted by den Heyer (2017) was also meant to analyze the effects of the above-mentioned cost reduction measures on the delivery of police services. den Heyer, however, noticed that it was not possible to answer this research question to any "reasonable standard." All police agencies affirmed in the study that the delivery of police services had been improved, including, according to a majority of the agencies, the effectiveness of their services. *None* [italics also in the original] of the agencies, however, had properly evaluated the effects of the policy measures they had adopted. This—a total lack of scientific evidence on the effects of cost reduction methods—was one of the key findings of den Heyer's (2017, p. 30) study.

Using Dutch Victimization Survey data from 1996–2004 and register-based data from several different sources, Vollaard and Koning (2009) studied the effects of the number of police officers on crime and on victim precaution. Vollaard and Koning's way of circling around *the simultaneity problem*—more police resources tend to be invested in municipalities where criminality is high and growing, making it difficult to estimate the effect of police resources on crime—was ingenious. They used municipality-specific information on the police funding formula of the Netherlands to differentiate between exogenous and endogenous effects of the number of police officers on crime and on victim precaution. This was a feasible approach for the reason that training and hiring police personnel takes time: *the actual number of police officers* will always differ from *the number prescribed by the police funding formula*. The difference between these two figures was the exogenous factor Vollaard and Koning (2009, p. 337, p. 339) were interested in.

The pooled 1996–2004 victimization data that Vollaard and Koning (2009) used in the study consisted of 385,543 respondents from 644 municipalities. A series of linear probability models were estimated by Vollaard and Koning. The models were built to predict three different sets of dependent variables. These were binary dependent variables on victimization, experiencing public disorder, and taking precautionary measures, all three sets, in all models, conditional on a vector of municipality characteristics, and on a vector of respondent characteristics. The primary interest was in the effect of the number of police officers (the exogeneous component) on the dependent variables.

With the exception of car thefts, in which case the coefficient for the number of police officers took an unexpected, positive direction, the estimated effects

in Vollaard and Koning's (2009, pp. 340–341) final models were all negative: property crimes (burglary, [but not car thefts], theft from car**, bicycle theft***), violent crimes (threat with violence**, assault, robbery with violence), and public disorder experiences (littering***, graffiti, vandalism, harassment**, youth nuisance***, public intoxication*, drug nuisance***) were all reduced as a function of growth of the number of police officers. The same applied to taking precautionary measures (drive or walk round to avoid unsafe places**, leaving valuable properties at home to prevent theft**, and not allowing children to go out because of safety reasons) (*** denoting statistical significance at $p < .01$; ** $0.01 \leq p < .05$, and; * $0.05 \leq p < .10$; in the authors' study). In view of the effect sizes, the estimated elasticities varied between –0.20 and –0.50.

Sindall and Sturgis (2013) analyzed the effects of *the number of police officers* and *police visibility* on *confidence in the police*, using administrative data of the UK police force in combination with data from the English component of British Crime Surveys (BCSs) conducted in 2006–2007 and 2007–2008. The number of observations from the merged BCSs was 93,682.

The study was motivated by conflicting claims concerning the effects of budget cuts on confidence in the police, topical at the time. On the one hand, it had been suggested that downsizing will have disagreeable effects on crime and on public confidence in the police. On the other hand, it had been suggested that that the way police officers are used in the field is more important than the mere number of police officers, reference having been made to improving police visibility in the field in particular (Sindall & Sturgis, 2013, abstract, and pp. 146–149).

The dependent variable in Sindall and Sturgis's (2013, pp. 140–142) study consisted of eight (8) indicator variables of confidence in the police, covering crime fighting, procedural justice, and community engagement of the police. Principal component analysis of the indicator variable data resulted in one-component model and corresponding component loadings and component scores. The number of police officers in each of the Basic Command Units (BCUs) was obtained from the Home Office statistics. The police visibility variable was formed using the BCS data (statistical mean of respondents' police visibility estimates from each BCU): "On average, how often do you see police officers or Police Community Support Officers on foot patrol in your local area?" (*ibidem*, p. 141).

Multilevel path model with random intercept was used in the analysis. Confidence in the police was a function of the number of police officers and of police visibility, along with several individual- and BCU-specific characteristics. The model also captured the indirect effect of the number of police officers—mediated by police visibility—on confidence in the police. In other words, the number of police officers predicted police visibility, in addition to which both of these two variables predicted confidence in the police (Sindall & Sturgis, 2013, pp. 142–143).

Sindall and Sturgis (2013, pp. 143–146) discovered that both the number of police officers and police visibility had statistically significant positive effects on confidence in the police, with all other variables held constant. Additionally, the number of police officers had a positive effect on police visibility. In other words, they both were observed to contribute to citizens' confidence in the police, police visibility directly, and the number of police officers both directly and indirectly, mediated by police visibility. The authors concluded that, unless some of the efficiency improvements introduced along with the cost-reduction policies in the UK have succeeded in changing the mechanism discovered by Sindall and Sturgis in their study, "(...) reduction in police officer numbers, regardless of whether they are in frontline or back-office roles, will have an adverse effect on the public's confidence in the police." (*ibidem*, p. 149).

Oosthuizen (2022) offered a brief review of scholarly studies associated with the topic dealt with in the Sindall-Sturgis study, covering publications both before and after the Sindall-Sturgis study. The review effectively demonstrated that much more research needs to be done on the themata, few other studies having addressed the questions tackled by Sindall and Sturgis. The literature was also fragmented in the sense that the methods, data, and findings of the reviewed studies varied a lot.

Ojo *et al.* (2017) analyzed the effects of budget cuts of the early 2010s on safety organizations across Merseyside, the UK. They used stakeholder interviews (12 pcs.) in their analysis, and combined these with register-based data, policy analyses, and scholarly studies.

All Merseyside Community Safety Partners (MCSPs) faced the cuts at the time. The funding of the police was reduced by –15% from 2010 to 2015, whereas their staff was downsized by approximately –20%. More specifically, the number

of police officers was reduced by –18.8%, the number of Police Community Support Officers (PCSOs) by –22.5%, and the number of other staffs by –22.6% (*ibidem*, pp. 393–394). For the Merseyside Fire and Rescue Service, the figures were –12% (funding) and –31% (staff), and for the Liverpool Youth Offending Service –48% (funding) and –62% (staff).

Confidence in the police as measured in the British Crime Survey didn't significantly deteriorate over the period of time. According to Ojo *et al.*, the reason for this may have been the crime rate, which contracted in several different categories of crime over the period of time, or it may have been what the authors called "the pre-coalition-government goodwill" enjoyed by the police. Moreover, the key performance indicators of the police remained at a good level over the period of time, including police visibility and the share of emergency response times on target. There was feedback from the public, however, pointing to the practice of the police to deal with cases over the telephone, instead of actually visiting the crime scene (Ojo, 2017, pp. 396–397), and the authors found that the budget cuts had had a detrimental effect on the morale of the staff of the police in terms of job satisfaction, the level of stress, and sickness rates (*ibidem*, pp. 397–398).

1.2.2 A Fatal Shortcut: Downsizing State Police Troopers in Oregon

DeAngelo and Hansen (2014) analyzed the effect of a major budget cut and consequent layoffs of Oregon State Police (OSP) troopers on traffic fatalities in the state of Oregon. The authors made use of OLS regression and Poisson model estimations, and of a comprehensive series of data from different sources. Their data covered, among other things, the number of state troopers in Oregon and in the control group states over time, average speeds and cited speeds across the different states, the number of traffic fatalities (deaths), the number of traffic injuries (incapacitating injuries, visible injuries), vehicle miles traveled, weather conditions, monthly unemployment data, driver demographics data, commuting data, and data on the use of public transportation. Oregon was compared to a similar, geographically near control group formed by Washington and Idaho, and to a synthetic weighted control group that consisted of Washington (weight = 0.781), Idaho (0.108), Nevada (0.089) and West Virginia (0.022) (the methodology for constructing synthetic control groups originated in the work of Abadie, Diamond & Hainmueller from 2010; see DeAngelo & Hansen, 2014, p. 240).

Fiscally, Oregon was in the ropes in the early 2000s. The people of Oregon were provided with an opportunity to vote on a policy measure that would have allowed for tax raise, so as to avoid significant cuts to the state budget. They voted against the policy measure by about 100,000 votes. Hence, in 2003, Oregon had no other alternative but to implement the budget cuts (DeAngelo & Hansen, 2014, pp. 233–234). The estimated rates of contraction in the number of OSP troopers per vehicle miles traveled were 35% and 37% (these were the best estimates by the authors, see DeAngelo & Hansen, 2014, pp. 242–244; in computing the corresponding elasticities—see the discussion, below—DeAngelo and Hansen used the average thereof, 36%).

The authors then estimated the effects of the layoffs on traffic fatalities. According to their final estimates, highway fatalities increased by 12–14% (under all weather conditions; under dry weather conditions by 19–26%). The implied elasticity was, thus, somewhere between –0.33 and –0.38 (DeAngelo & Hansen, 2014, pp. 245–247). In addition to their findings on increased fatalities, DeAngelo and Hansen found that nonfatal injuries, too, increased as a consequence of the layoffs (*ibidem*, pp. 247–248).

As a part of their policy conclusions, DeAngelo and Hansen (2014, pp. 251–252) analyzed what would have happened

1. if the number of OSP troopers would have stayed at the level it was in 1979 (641 troopers, 2003 was not the first downsizing shock in the history of OSP troopers), instead of having contracted by 250 troopers between 1979 and 2005, and;
2. if, instead, the number of troopers would have grown at the same rate as vehicle miles traveled between 1979 and 2005.

Their first estimate (#1) pointed to 2,167 fewer fatalities compared to the realized number of fatalities, whereas their second estimate (#2) gave 5,031 fewer fatalities (DeAngelo & Hansen, 2014, pp. 251–252; on the effects of budget cuts on traffic enforcement, see also Su, 2020).

1.2.3 Downsizing and Citizens' Evaluation of Police Services

In two closely related studies, Vuorensyrjä (2018; 2023a) analyzed the effects of the downsizing and recovery cycle of the 2010s on citizens' evaluation of police

services in Finland. The studies covered time before, during, and after the three major police management reform programs of the early 2010s (2009–2016). Vuorensyrjä used the PBS cross-section data from 1999–2020 and pairwise comparisons of selected target indicators across the cross-section study years (the PBS studies having been conducted biannually, except between 2007 and 2010).[8]

The target indicators from the PBSs incorporated into the analyses were respondents' assessments of the performance of the police in their legacy duties. The four indicators were,

- *perceived police visibility*: "How often have you seen the police patrolling in your neighborhood?" [an ordinal frequency scale]
- *perceived effectiveness of crime reporting or reporting a disturbance to the police*: "The problem you reported [to the police] was rectified almost instantly?" and "You feel that your report [to the police] resulted in improved security in your neighborhood?" [Yes; No; Cannot say], and;
- *perceived emergency response time of the police*: "Imagine you are in a situation where you require urgent police assistance. How long would you expect it to take from your call to the arrival of the police on the scene?" [an ordinal time scale]

The first study concentrated on the downsizing phase of the cycle, whereas the second one considered the full cycle. Using pairwise likelihood ratio tests and non-parametric tests for ordinal variables, Vuorensyrjä (2018; 2023a) compared each target variable distribution from year *t* to corresponding distribution from the previous cross-section study year *t*–2 to discover statistically significant changes in the target variables.

The impact of the reform period could be seen in all target variables. The PBS respondents' estimates of *police visibility* deteriorated in a statistically significant manner from 2012 to 2014 and from 2014 to 2016 (Vuorensyrjä, 2018, p. 760). The police visibility variable was not included in the second study (Vuorensyrjä, 2023a), so in this respect the pair of studies covered only the years before and during the management reform period, but not the years after the reform programs.

Respondents' estimates of *the effectiveness of crime or disturbance reports to the police* changed in a manner that was a bit puzzling. Uncertainty (the share of [Cannot say] answers) was markedly increased from early to mid-reform years, after which it suddenly subsided in 2016. It thus seems that, in the early to mid-2010s, the respondents simply didn't know what happened as a consequence of their crime or disturbance reports to the police: *whether or not the crime or disturbance they reported about was cleared by the police* (the percentage of uncertain respondents increased from 13% in 2007 to 28% in 2014; the change was statistically significant between 2010 and 2012), and *whether or not the report led to improvement in the safety of their own neighborhood* (the percentage of uncertain respondents increased from 11% in 2007 to 26% in 2014; here, however, the cross-sectional year-on-year changes were not statistically significant in any of the pairwise comparisons).

When uncertainty evaporated, perceived effectiveness of reporting deteriorated. While the share of normatively positive [Yes] answers in the three-step variable scale decreased by approximately 3–6 percentage points, the share of normatively negative [No] answers increased by 17–22 percentage points. The changes were statistically significant between 2014 and 2016 for both of the perceived effectiveness of reporting variables. After the reform years, from 2016 to 2018 to 2020, the estimates began to gradually improve again (Vuorensyrjä, 2023a, pp. 10–11).

Respondents' estimates of *the emergency response time of the police* deteriorated from 2010 to 2012 and from 2012 to 2014 in a statistically significant manner. From 2014 to 2016 and from 2016 to 2018 the estimates improved in a statistically significant manner (Vuorensyrjä, 2023a, p. 9).

The analyses in these two studies were based on self-reported, essentially subjective data, and no other variables were held constant in estimating the models. In this sense, *time* was the only predictor in the models. The findings were consistent, though, so it seems that citizens' assessments of the performance of the police in their legacy frontline duties, first deteriorated during the early to mid-reform years, and then began to gradually recover after the three major reform programs, closely corresponding to the downsizing and recovery cycle of the police over the 2010s.

1.2.4 Intermediate Summary

Three of the reviewed studies suggest that the number of police officers has a noticeable effect on the level of police services and on the experience of the citizen-clients of the police.

- The number of police officers had a systematic and statistically significant effect on many different indicators of crime and citizens' precautionary behavior in Vollaard and Koning's (2009) study. Theft from car, bicycle theft, threat with violence, littering, harassment, youth nuisance, public intoxication, and drug nuisance all contracted as a function of the number of police officers. The same applied to citizens' precautionary measures; avoiding unsafe places, and leaving valuables at home to prevent theft.
- Sindall and Sturgis (2013) found that both the number of police officers and police visibility contribute to confidence in the police. The number of police officers had also an indirect positive effect on confidence in the police, mediated by police visibility.
- DeAngelo and Hansen (2014) found that the decision by the state of Oregon to cut the budget and thus the number of Oregon State Police (OSP) troopers in 2003 by 36% had a dramatic effect on traffic fatalities in Oregon. Highway fatalities increased by approximately 12–14% over the period of time under scrutiny. According to DeAngelo and Hansen, an estimated 2,167 lives were lost during 1979–2005 in traffic fatalities as a consequence of several distinct budget cuts (compared to a hypothetical status quo).

Results from other studies have been mixed.

- Ojo *et al.* (2017) analyzed the effects of budget cuts of the early 2010s on safety organizations across Merseyside, the UK. The effects of the period of austerity could be seen within the police organization (the morale of the staff declined), but not in citizens' confidence in the police. Confidence in the police, as measured in the BCS, was unaffected by the developments.
- The same would appear to apply to citizens' trust in the operation of the police in Finland. Variation in trust was moderate over the 2010s—by the

criterion of a single four-step scale indicator of trust in the operation of the police used in the PBS—though a minor drop in trust could be detected in the mid-2010s (Ministry of the Interior, 2023, p. 49). In contrast to these findings, statistically significant changes in citizens' assessments of police services were detected during the decade in two closely related studies by Vuorensyrjä (2018; 2023a). Perceived police visibility, perceived effectiveness of crime reporting or reporting disturbances to the police, and perceived emergency response time of the police all deteriorated in the early to mid-2010s, but then recovered towards the late 2010s.

- den Heyer's (2017) study on cost reduction methods adopted by local police agencies in Australasia, Canada, and the UK was interesting, but also intriguing, in two distinct respects. 1. None of the police agencies that participated in den Heyer's study had evaluated the effects of the cost reduction methods on the delivery and effectiveness of police services. Lack of scientific evidence was "total," in words of den Heyer. 2. The agencies had, nevertheless, preferred cost reduction methods other than those that imply downsizing (*i.e.*, other than leaving vacancies unfilled, introducing hiring freezes, or laying off police officers).

1.3 Data

Of the 4,044 respondents of PBS 2022, 2,302 people answered the open-ended question concerning trust in the operation of the police (*cit*.), as has already been established. The full data of the current study consisted of 47,097 words from these 2,302 records, 20.5 words per record, on average.

For the purposes of data protection (anonymity), Statistics Finland, the data collection partner of the Ministry of the Interior and the Police University College in the PBS project, kept the open-ended data separate from the other parts of the data. For this reason, the set of respondents who answered the open-ended question (2,302) could not be compared to the full data set (N = 4,044) by the criteria of background variables. The data may or may not be biased, in this respect, and thus also with respect to the random sample of the PBS (8,500) and to its population framework correlate (4,081,614).

1.4 Methods

1.4.1 Units of Analysis

The analysis of the study targeted all those individual respondents who answered the open-ended question of the PBS. These were *the sampling units* of the analysis. Each of these individuals provided a passage of text to the analysis. This passage of text is what we call *a record* in this study.

Semantically, coding was based on *propositional units* of analysis. The respondents, having considered all salient factors and features of trust, had formulated their own reasons to (dis)trust in the operation of the police, which they then self-reported. For them, these were the most important reasons to (dis)trust in the operation of the police. The full context of each record was used in trying to interpret the proposition, which then determined the final coding decision.

In this study we concentrated on reasons to *distrust* in the operation of the police, specifically on *perceived resource shortages of the police* as a reason for the lack of trust. Each record may have contained six different kinds of codes from the point of view of the analysis. These were

0 = no reference to resource shortages of the police;

1 = reference to resource shortages in permits and licenses services;

2 = reference to resource shortages in traffic enforcement;

3 = reference to resource shortages in criminal investigation;

4 = reference to resource shortages in surveillance and emergency operations, other than traffic enforcement;

5 = reference to resource shortages of the police, but not to any of the above-mentioned division-specific types of shortages.

One single record in the data may project to several different codes, although 0 could not be combined with 1–5, and 5 could not be combined with 1–4.

Hence, the number of coding units (in total) was necessarily the same or higher (≥) than the number of sampling units and records. The primary focus of the current study was on (1–4), not on (1–5), nor on the (1–5)/(0–5) ratio.

Often, it was easy to terminologically differentiate between (0), on the one hand, and (1–5), on the other hand, as the notion of "resource (shortage(s))" was contained in a wide majority of the latter type of records.

> "Resource shortage as well as the lack of knowledge of the Swedish language affect trust (...)"

> "Cuts to the resources of the police have been so hard that I don't think that I could get help if such a situation would arise (...)"

> "All experiences with the police have been only positive; the reasons for contacting them have not been agreeable, to be sure, but the way I have been treated, ten points to the police!! They are true professionals!! It's only that the police would need MUCH MORE resources / vacancies to do their job. Really hope this will be arranged in the near future. Extremely valuable, the work they are doing!"

There were, however, records that semantically corresponded to categories (1–5), even though the notion of "resource (shortage(s))" as such was absent. These included primarily propositions according to which there are "too few police officers."

> "Matter-of-fact, moderate, and equitable behavior creates trust. I think there are too few police officers."

> "I do trust, but the number of police officers is way too low."

> "I do trust and appreciate the work the police do, but there are too few police officers in Finland. I myself wouldn't necessarily have the courage to report a crime or to act as a witness, because I would be afraid of reprisal against me or my family and I don't have confidence in the ability of the police to protect us. Narcotics crime is flourishing in children's world already and the authorities are being ripped off their rights to reasonable response. The youths are well aware of this."

Insufficient financial resources of the police—primarily the central government budget "appropriations" ("määrärahat," in Finnish)—were also mentioned in some of the records placed in categories (1–5).

> "(...) Appropriations of the police, which I think are too low, also weaken my trust in the ability of the police to operate in an efficient manner."

> "Appropriations are too low. I believe that the police do what they can. It is extremely regrettable that school police officers do not visit school classes anymore. Youths take their influences from the street. Being adventurous, they are drawn into criminal activities. Respect of authorities has weakened, as the police are distant. They do not dismount and encounter the youths in their daily life. Thanks go to [XX], who did excellent job in schools for years. I would like to see someone continue [XX's] work."

In addition to the above criteria, the record must have contained reference to division-specific services of the police, in order to have been coded (1–4), and not (5). Crowded or inaccessible permits and licenses services and criminal investigation services, and the lack of sufficient traffic enforcement, were relatively simple and straightforward in this respect. There was slightly more variance, however, in trying to identify references to surveillance and emergency operations. References to lack of police visibility in the streets or in patrolling in one's own neighborhood, to people not getting emergency help in time, and to the police leaving disturbances or vandalism unaddressed, even if these are reported to the police, were the primary references in this category.

> "Police visibility in small far-away municipalities and communities is almost nil. Probably due to the number of police officers and the resources of the police. It is unfortunate that there are no local police officers anymore, not even in the somewhat bigger municipalities. This would keep at least violent crime and narcotics crime at bay, and would better secure law and order. In my opinion the nearest police officer and car shouldn't be more than 30 min away from you."

> "I trust in the operation of the police, but it is not possible to get police officers to the scene of events fast enough, because there are too few police officers."

"No, I do not trust, because there are too few police officers. If I would, for example, call them and report about an assault in my neighbor, I couldn't trust that they would ever arrive at the scene."

"Time pressure, low level of appropriations, police stations being closed down, weakening of permits and licenses services, gangs, increasing disturbance behavior, *etc.*, there are several distinct signs of disagreeable development as regards the police force."

1.4.2 The Research Strategy

The analysis consisted of two distinct rounds of coding. The first round of coding was conducted independently by two researchers. Researcher i, interpreting and coding the data, placed (or decided not to place) a given record *r* into the category under analysis (concluding, for example, that the respondent had referred to resource shortages of the police in criminal investigation as a reason for her or his lack of trust in the operation of the police). Researcher j conducted independently the same kind of analysis.

If they both placed a given record *r* into the same category—the category under analysis—it ended up in set $\{R.ij\}^0$ in the analysis (Figure 1.3). If neither of them placed it into the category, it ended up in set $\{\neg R\}^0$. If only one of the researchers, say i (j), placed the record into the category, it ended up in set $\{R.i\}^0$ (set $\{R.j\}^0$). Krippendorf's alfa ($_c\alpha$) was then computed as a measure of reliability of the coding for each of the four police services categories under analysis (Krippendorf, 2013, pp. 277–309).

The second coding round concentrated only on those particular records that the researchers had coded differently in the first round ($\{R.i\}^0 + \{R.j\}^0$). Records in $\{R.ij\}^0$ and $\{\neg R\}^0$ were not included in the analysis in the second coding round. Hence, the analysis was asymmetric in the sense that it was not possible for the $\{R.ij\}^0$ and $\{\neg R\}^0$ sets to contract in the second coding round. They either expanded or stayed the same compared to the first coding round (Figure 1.3).

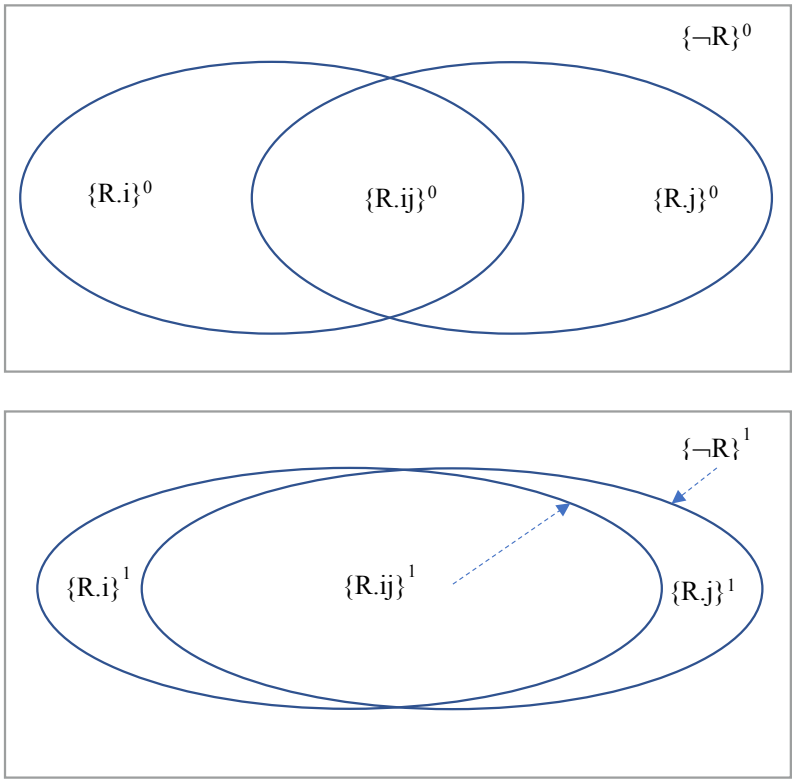

Figure 1.3. Coding and the Research Strategy: A Venn Diagram

There were 72 items in total in the subset of differently coded records ($\{R.i\}^0 + \{R.j\}^0$). Two (2) of these items had to do with the analysis of perceived resource shortages in permits and licenses, 10 involved the analysis of perceived resource shortages in traffic enforcement, 23 the analysis of perceived resource shortages in criminal investigation, and 37 the analysis of perceived resource shortages in surveillance and emergency operations.

Before the second coding round the researchers returned to, and recapitulated, the core concepts and the object of the analysis. In addition to this, one further qualifying coding rule was adopted due to a minor variation detected in coding patterns. It was agreed upon and explicitly stated that, if the respondent's primary point of reference had been the misallocation of resources within the police, then this, even if the proposition was accompanied by a proposition

according to which resources of the police in some of the division-specific services categories were insufficient, was not a reason to place the record into the resource shortage category. It was placed in the resource misallocation category (and thus in $\{\neg R\}^1$).

For the purposes of the second coding round, the records were randomly reordered and then independently recoded by the two researchers. If they both interpreted a given record the same way, it was moved from ($\{R.i\}^0 + \{R.j\}^0$) to $\{R.ij\}^1$ or to $\{\neg R\}_1$, accordingly. If their coding decisions were different, the record stayed either in $\{R.i\}^1$ or in $\{R.j.\}^1$. Krippendorf's alfas were again computed for each of the four division-specific police services categories under analysis.

The following assertions hold true for the second coding round[1] in relation to the first coding round[0].

$$\{\neg R\}^1 \geq \{\neg R\}^0$$

$$\{R.ij\}^1 \geq \{R.ij\}^0$$

$$\{R.i\}^1 \leq \{R.i\}^0$$

$$\{R.j\}^1 \leq \{R.j\}^0$$

$$_c\alpha^1 \geq {}_c\alpha^0 \qquad (1.1)$$

1.4.3 Krippendorf's alfa

The idea of Krippendorf's alfa as a measure of reliability of coding is in comparing the number of exact coding matches between two or more coders to all logically possible alternatives that the coders may arrive at. In case of binary coding, and fully coded data, Krippendorf's alfa $_c\alpha$ can be computed as follows.[9]

$$_c\alpha = 1 - (RK - 1)\frac{\sum_{r=1}^{R}(\frac{b_0 b_1}{K-1})_r}{B_0 B_1}, \qquad (1.2)$$

where R is the number of records r under analysis, K is the number of coders, b_0 is the number of binary zero (0) codes for a given record, b_1 is the number of binary one (1) codes for a given record, B_0 is the number of binary zero (0)

codes in the analysis in total, and B_1 is the number of binary one (1) codes in the analysis in total (*cf*. Krippendorf, 2013, pp. 277–309).

The acceptance level is set to ${}_c\alpha > 0.80$ by Krippendorf (2013, pp. 324–328). Values between 0.67 and 0.80 justify tentative conclusions only (*ibidem*, p. 325).

1.5 Findings

1.5.1 Prevalence

An estimated 12.3% (284/2,302) of the respondents referred to resource shortages of the police as a reason for their lack of trust in the operation of the police. In the standard report by the Ministry of the Interior (2023) the corresponding estimate was 12.9% (296/2,302).

A fair majority of the answers thus coded were general in the sense that no specifying reference to any of the divisions of the police was present in the record (category 5). In approximately 2% (46/2,302) of the records the respondents referred to resource shortages of the police *and* to criminal investigation *as* a domain that suffers from resource scarcity, and also in approximately 2% (51/2,302) of the records they referred to resource shortages of the police *and* to surveillance and emergency operations *as* a domain that suffers from resource scarcity. In permits and licenses services (10/2,302) as well as in traffic enforcement (12/2,302) the share of such records was approximately 0.5%. Coding reliability was relatively good after the second coding round (${}_c\alpha = 0.827–1.000$), but not after the first coding round (${}_c\alpha = 0.546–0.891$), where there were problems with surveillance and emergency operations coding (${}_c\alpha = 0.546$) and partly also with traffic enforcement coding (${}_c\alpha = 0.613$).

Table 1.1. Lack of trust in the operation of the police due to perceived division-specific resource shortages: an analysis of open-ended answers

Reference to	Resource shortages in permits and licenses	Resource shortages in traffic enforcement	Resource shortages in criminal investigation	Resource shortages in surveillance and emergency operations	Resource shortages, total
First coding round					
$\{R.ij\}^0$	8	8	38	23	268
$\{R.i\}^0 + \{R.j\}^0$	2	10	23	37	56
$\{\neg R\}^0$	2,292	2,284	2,241	2,242	1,978
${}_c\alpha^0$	0.888	0.613	0.763	0.546	0.891
Second coding round					
$\{R.ij\}^1$	10	12	46	51	284
$\{R.i\}^1 + \{R.j\}^1$	0	5	12	7	25
$\{\neg R\}^1$	2,292	2,285	2,244	2,244	1,993
${}_c\alpha^1$	1.000	0.827	0.882	0.934	0.952
$\{R.ij\}^1/(M^* = 284)$	3.5%	4.2%	16.2%	18.0%	100.0%
$\{R.ij\}^1/(N = 2{,}302)$	0.4%	0.5%	2.0%	2.2%	12.3%

$M^* = 284$ Total number of records in which reference was made to resource shortages of the police, whether in the form of resource shortages in general, or referring to some of the four services categories. This (M^*) was the number of records in $\{R.ij\}^1$ (total). The numbers of records that the coders arrived at independently, in the first round of coding, were 292 and 300. As noted in the text corpus, Ministry of the Interior (2023, p. 72) arrived at 296 such records.

The volume of records where reference was made to resource shortages of the police is small in absolute numbers (12.3%; 284/2,302), especially within the four services divisions of the police (0.4–2.2%). There are a couple of things, however, that one should note, in judging the relative importance of the findings.

It is worthy of notice, first, that, when related to the total number of records in which reference was made to resource shortages of the police ($M^* = 284$, Table 1.1), the proportions are not negligible anymore, and there are marked differences in the division-specific shares of records in $\{R.ij\}^1$ sets, ranging from 3.5% (permits and licenses) to 18.0% (surveillance and emergency operations). Secondly, when related to the underlying yearly police-public contacts, which are the highest in permits and licenses function of the police, and much lower in criminal investigation and in surveillance and emergency operations, the (Bayesian) relative differences in records referring to division-specific resource shortages of the police become even greater, and even more interesting.

Empirically, in terms of the frequency of actual police contacts, permits and licenses services are the services that citizens use the most. Approximately 25.4% of the respondents of the PBS 2022 had had a contact with the police in matters related to *permits and licenses* during the last 12 months. Corresponding shares in other detailed police services categories were significantly smaller. In matters related to *traffic enforcement and traffic accidents* it was 8.3%, in matters where the respondent was a *victim of crime* 4.6%, in matters related to *public disturbance* 3.6%, and in matters where the respondent was a *witness of crime* 3.2% (Ministry of the Interior, 2023, pp. 121–122).

Hence—as an admittedly rough and incomplete approximation—it could, perhaps, be said that, of the estimated 585 (0.254 × 2,302) permits and licenses contact respondents in the data subset, 10 respondents, or 1.7%, had taken notice of a serious resource shortage in the domain, whereas in the case of victims and witnesses of crime (as a combined category, assuming no overlap between these two contact categories), of the estimated 180 (0.046 × 2,302 + 0.032 × 2,302) victim and witness contact respondents in the data subset, 46, or 25.6%, had noticed that resources of the police in the domain are seriously lacking ("seriously" here meaning: to the degree that the encounter had begun to erode their trust in the operation of the police).

1.5.2 Descriptive Analysis

The analyses in this section are based on the records where the respondents referred to division-specific resource shortages of the police, *i.e.*, on the division-specific $\{R.ij\}^1$ sets from the final semi-quantitative analyses.

Permits and Licenses

Relatively few respondents had detected resource shortages in the domain of permits and licenses. This may have to do with persistent efforts to digitalize these services over the 2000s and 2010s (Nykänen, 2022). The rate of growth of labor productivity in permits and licenses has been high in the medium and even in the long term. Hence, even though the real unit costs per output have decreased in permits and licenses, and the number of personnel has contracted, the accessibility of these services has not deteriorated. The contrary is probably true (Vuorensyrjä, 2018; Nykänen, 2022).

The records in this category were mainly complaints about the services being *crowded* (or "stuck," "the queues being long," "the processes taking too long," *etc.*). The findings may be local, furthermore, rather than national: according to Nykänen (2022), operations in permits and licenses have not been fully consistent across the different police districts. Much for this reason, it has not always been possible to rationally allocate resources between the different districts (*ibidem*).

In addition to local variation in the delivery of these services, the demand for permits and licenses services has experienced exceptionally strong oscillation over time, not only due to the Covid-19 pandemic but also due to recurrent renewal cycles of travel and ID documents. Many of these cycles have originated in changes that have been exogenous to the producing organizations and to their citizen-clients (usually initiated by changes in the law) (Nykänen, 2022).

> "I trust in the Finnish police, and the police force should be expanded in every domain. Permits and licenses services are stuck (...)."

> "Contraction of the number of police officers leads to increased workload for the remaining officers, increasing the propensity to "cut corners" and to neglect the not-so-significant matters. Trust in the operation of the police is weak in some domains, as the resources of the police are insufficient to enforce all the laws. The long queues in permits and licenses services weaken trust."

> "By far the greatest part of trust deficit results from the low number of police officers. All forms of contraction debase the capacity of the police to act. Doubling the number of police officers and their stations. Police stations, permits and licenses services, *etc.*, and things will certainly get better. I mean, the number of people has increased a lot, and people keep coming from abroad with different kinds of cultures and habits. Yet at the same time the operation of the police has been reduced a lot."

Traffic Enforcement

There were three kinds of concerns among the respondents regarding traffic enforcement. First, the respondents had noticed that *police visibility in traffic has been reduced*. They hadn't seen the police in traffic, for example, or they hadn't been stopped by the police in traffic for a breath test, for a long time.

> "I think that the Finnish police operates in a manner that is worthy of trust. The only problem is formed by the constrained resources of the police, which, I think, is the reason for the visibility of the police being so low in traffic."

Some of the respondents also felt that *traffic is more dangerous than before*; youths driving recklessly at nights, especially in the sparsely populated areas of the country where the probability of getting caught is low; and driving under influence (DUI) being common, whether under the influence of alcohol or drugs.

> "I am mainly concerned with the resources of the police. There is plenty of recklessness in traffic no one even tries to address. (...) I would like to have more police resources to our municipality. It is simply necessary for traffic to be safe. Mopeds and cars without headlights, for example, need to be taken off the streets."

> "I do trust in the police but they have all too low resources. It is rare to see police out there, patrolling in the streets, I think this would be important for public safety at the weekends, especially for young women. More traffic enforcement and breath tests, frighteningly many people there in the streets driving under influence of alcohol or drugs."

Third, some of the respondents thought that *discontinuing the operation of the National Traffic Police (NTP)*—a decision taken as a part of the third management reform program (III) of the police—*was a mistake*, and that it will be necessary to replace the NTP with a similar authority.

> "There are too few police officers. The level of traffic enforcement is too low. It was a mistake to close down the National Traffic Police. It is not possible to bribe the police in Finland, you can trust in the police."

> "The reduced number of police officers. There's little or no traffic enforcement in the streets. Want to have back the National Traffic Police."

Criminal Investigation

Many respondents had the experience that criminal investigation had suffered the most from contraction of the resources of the police. In addition to 1. *general concern over the state of criminal investigation*, they had noticed that 2. *criminal investigation takes a very long time*, which is a problem from the point of view of legal protection of the citizens, and that 3. *petty crimes (bicycle thefts, other property thefts such as boat thefts or cellar storage burglaries, frauds on- and offline, etc.) seem to go uninvestigated and uncleared by the police*, due to resource shortages.

By far the most common of these three categories was category #3.

> "Crimes such as property thefts and vandalism, commonly encountered by the citizens, are left uninvestigated and uncleared as the police suffer from resource scarcity. For this reason, these kinds of crimes are not necessarily even reported to the police anymore."

> "I trust in the operation of the police in Finland, but, regrettably, I do not believe that the resources of the police are sufficient to investigate burglaries. In our own case (...)"

> "I trust in the operation of the police in general, but there are too few police officers. Property thefts, among others, tend to go largely unsolved (petty crimes, which are nevertheless important to individual victims, are being left unsolved) and keeping to law and order has been weakened, because patrolling has been cut down. Have the operation of the police been secured also in the smaller communities / in the "outlying villages" ["syrjäkylillä," in Finnish]?"

> "I trust in the Finnish police, the most important thing is that people feel safe and that they know that the police will help them if needed, and maintain law and order. In my experience the resources of the police are constrained, and many significant cases even, are left uninvestigated, especially in digit&IT domain. Frauds, phishing, sexual offences even."

> "I do trust, in the main, but as I have understood, due to resource shortages (money/personnel), the operations of the police are prioritized in great many things. I have got the impression that petty crimes (pinching, thefts) are being set aside, the police having to concentrate on bigger problems."

"I am familiar with the operation of the police as a result of my own work, where we cooperate with the police, and thereby my trust in the police is strong. In property crimes *etc.* (petty crimes such as thefts of property and damage to property) the police have little or no resources or opportunities to act, which is annoying."

Surveillance and Emergency Operations

According to the Ministry of the Interior (2023, p. 127, pp. 126–132), citizens consider *emergency response* to be the most important function of the police. In the latest PBS, approximately 92% of the respondents considered these services to be "very important" and further 7% "fairly important."

This is reflected in the answers to the open-ended question of the survey. Many of the respondents who referred to resource shortages of the police in the domain of surveillance and emergency operations were concerned with whether or not the police can make it in time to the scene, if there is an emergency. The people who were worried about the matter were mostly those who inhabit the sparsely populated areas of the country.

"I trust in the police in general, but I am worried about the decreasing number of police officers, they are rarely seen, and people living in the sparsely populated areas, as I do, do not have equal access to rapid response, in case there is a need for it."

"There is time for a lot to happen in Kainuu before any help will be available. In northern Karelia one can get help relatively fast. More police officers are needed to do the work."

"I trust in the police because they mainly treat citizens in an equal, matter-of-fact manner, and are fair. What makes it difficult to trust in the police is that there are too few of them and in case of an emergency, in the sparsely populated areas, it may take several hours before the police arrive at the scene. Insecurity and the feeling of insecurity are thereby increased. Police visibility in the field prevents crimes. Civil disobedience should lead to immediate fines."

"As a consequence of scarcity of their resources the police are unable to deal with all their crime prevention and investigation duties in property crimes.

Getting help in acute cases of emergency takes certainly too long in the sparsely populated areas of the country."

The problem had been detected not only in the rural areas but also in some of the suburban areas, though apparently not in the Metropolitan Helsinki area, where the emergency response times of the police are the lowest in the country.

The second major propositional theme in the domain had to do with citizens' concern over *youth gangs, and various kinds of public disturbances and vandalism*. The same message was apparently coming from all corners of the country.

"The resources of the police have been diminished in recent years. The police are not active enough in crowded places, in the center of Helsinki, for example, or in the Tikkurila station. It feels very insecure to go to public places in the dark / at night. The police should be able to discipline youth gangs, which are becoming more impudent all the time, persons from private security guard firms can do nothing about them. More resources."

"Too low resources create a situation where there is no police visibility in the streets, so it is safe for the criminals to operate in far-away areas of the country. Speedsters drive recklessly and the youths destroy property and assault people, as there is no danger of getting caught. Punishments aren't too frightening either, so that they would function as a preventive measure, as they ought to."

"I trust that the police act right, according to the law. It's just that, there are too few police officers to control and prevent for example youth gatherings and vandalism. 'Visibility' of the police would increase confidence and at the same time function as a preventive measure."

"I trust in the operation of the police, but I have the impression that the resources of the police aren't sufficient to all duties they have. That's why, among other things, crimes and data breaches remain unsolved, there's disturbing behavior in public places and response times in emergency assignments are high. For me as a citizen it is important that I can trust in the operation of the police, their judgment, and their accessibility."

"The number of police officers is very low, even though serious crimes and gang crimes are increasing. I don't think that the police can make it if a situation similar to that in Sweden spreads here. (...)."

"The below-bar-size of the police force and funding of the police ought to be fixed, and assignments should be prioritized. Increasing inequality in the society causes anxiety, aggressiveness, use of drugs, and mental health problems, and gives rise to gangs. Also, here in the countryside, at least at the weekends, police visibility is needed to hold back the noise caused by moped youth gangs and to prevent car thefts."

1.6 Conclusions, Limitations, and Discussion

1.6.1 Conclusions

Using qualitative data from Police Barometer Survey 2022 and the method of content analysis, this study answered two related research questions, the first of which was semi-quantitative and the second qualitative.

1. What is the prevalence of records where the respondents refer to resource shortages of the police as a reason for the lack of trust in the operation of the police? What is the prevalence in general, and what is the prevalence as regards the four division-specific functions of the police (a.–d.)?

According to our estimate, approximately 12.3% of all those who answered the open-ended question referred to resource shortages of the police as a reason for the lack of trust in the operation of the police. The corresponding estimate by the Ministry of the Interior (2023), using the same data, and essentially the same coding criteria, was 12.9%. This was the most common reason for not to trust in the operation of the police, according to the Ministry.

References to resource shortages in criminal investigation (2.0%) and in surveillance and emergency operations (2.2%) were much more common than references to resource shortages in permits and licenses function (0.4%) and in traffic enforcement (0.5%). As a proportion of those who referred to resource shortages of the police (M* = 284 respondents), resource shortages in permits and licenses were mentioned by 3.5%, traffic enforcement by

4.2%, criminal investigation by 16.2%, and surveillance and emergency operations by 18.0% of M*.

2. How do the respondents describe the shortages, in relation to the four different functions or the police? What, exactly, is eroding their trust in the operation of the police?

- Permits and licenses function of the police: The respondents were mainly concerned about the services being crowded ("stuck," "the queues being long," "the processes taking too long," *etc.*).
- Traffic enforcement: The respondents were of the opinion that police visibility in traffic has been reduced, including the control of DUI and the associated tests. They also thought that traffic is more dangerous than before in the sense that youths drive recklessly in the sparsely populated areas of the country, especially at nights, and DUI is common, all of which, in combination with reduced traffic enforcement, is disagreeable. A few respondents also thought that the decision to discontinue the operation of the National Traffic Police (NTP) was a mistake, and should be reversed.
- Criminal investigation: There was general concern over the state of criminal investigation among the respondents, in addition to which they had noticed that investigation processes take often a very long time, and that petty crimes (bicycle thefts, other property thefts such as boat thefts or cellar storage burglaries, frauds on- and offline, *etc.*) seem to go uninvestigated and uncleared by the police.
- Surveillance and emergency operations: The primary concern among the respondents had to do with emergency response time of the police. They were concerned with whether or not the police can make it in time to the scene if there is an emergency. Another cause of concern was the growing number of youth gangs and various kinds of public disturbances and vandalism.

1.6.2 Limitations

The data of the PBS 2022 are based on random sampling techniques, and can be expected to represent the target population. However, for reasons of data protection (anonymity), the qualitative data of the current study were kept

separate from the other data of the PBS, including the background variables. It was not possible to estimate whether or not the respondents in the qualitative data set represent the respondents in the full data set by the criteria of background variables. Hence, it was not possible to estimate whether or not the findings could be generalized to the adult population of Finland. Note, though, that, even if such a correspondence could have been secured by the criteria of the background variables, the conclusions could still, of course, be non-representative (biased).

The reliability of coding by two independent coders was tested with the help of Krippendorf's alfa tests. While there were reliability problems in coding in the first coding round, the observations from the second coding round were reliable, alfas ranging between 0.827 and 1.000.

The findings of the study fall in line with the assumptions of the cost disease theory. This—perceived resource shortages—is what we would expect to see among the clients of a slow-progressive labor-intensive sector of the economy, after a period of significant downsizing events. Coherence in this sense, and with respect to other empirical findings, is how we read and interpret the results (van Reenen, 1999; Kurenmaa, 2018; Karnaranta, 2019; Vuorensyrjä, 2018; 2021; 2023a; Nykänen, 2022; Ristola & Karnaranta, 2023). But, of course, there could be other ways to make sense of the results of the study. We know that the Finnish economy has suffered from slow growth and secularly growing burden of public debt from 2009 to 2024, with detrimental effects on public production. It is also known that crime reports in certain categories of crime, such as reports on frauds online and on sexual offences, have been rapidly rising for more than a decade now. In addition to this, changes in the law have introduced several new responsibilities to the police over the 2010s. Many different idiosyncratic events, furthermore, have also caused pressure on the police, and on police work. Suffice it to mention the Arab spring and the consequent wave of immigration to Europe in 2015, and the new hybrid threats associated with Russia's aggressions against Ukraine (2014, 2022). The cost disease phenomenon is only one of these dark-blue undercurrents of law enforcement.

1.6.3 Discussion

It was noted in the introductory section of the article that procedural justice may be expected to be one of the key factors of trust in the institutions of the judicial system, perhaps *the* key factor in this respect, especially if and when considered under the conceptually more comprehensive logic of the rule of law and liberal democracy.

This much taken for granted, it does appear to be the case that perceived resource shortages of the police contribute to citizens' lack of trust in the operation of the police, at least in the margin. By "marginal effect" we do not mean that the effect size is low. For the affected citizen-clients of the police, the effect size is probably high. What we mean is that, the share of those affected is still probably small, in relation to the entire adult population.

There is, as has already been noted, a logical connection between the core assumptions of the cost disease theory and the findings of the current study. In 2021, the Ministry of the Interior, having consulted the Ministry of Finance, established an independent consulting group to analyze the funding of the police, and the use of appropriations by the police. Roope Uusitalo, a professor of economics and a member of the independent group, wrote in the resulting policy report that,

> "Productivity improvements in labor-intensive industries are, of course, difficult to achieve. Improving productivity is possible, in principle, by way of automation of the different functions of the industry. In order to lead to actual savings in total costs, however, such an automation would have to be accompanied by a contraction in the number of staffs." (Kietäväinen *et al.*, 2022, p. 121; [translation by M.V.]).

A rarely noticed fact is that, this is exactly what has happened in one of the divisions of the police over the 2000s and 2010s, namely in permits and licenses services. Due to digitalization, labor productivity has significantly improved in the division, real unit costs per output have contracted, and the number of staffs has been reduced (Vuorensyrjä, 2018; 2021; Nykänen, 2022). Moreover, due to consistent productivity gains, the citizen-clients of permits and licenses haven't been affected by resource shortages of the police, not at least to the same degree as the clients of other lines of services.

All of this would seem to agree with the propositions of the so-called "asymptotic stagnancy hypothesis," a refined version of the cost disease theory suggested by Baumol, Blackman and Wolff (1985), permits and licenses services being the fast-growing component within the otherwise slow-growing industry. The findings not only demonstrate that there are some real differences between the different divisions of the police in production functions, and thus also in their rates of growth of productivity. They also demonstrate the vital importance of carefully considered investments in new technology.

Data

Eurostat (2024). *Personnel in the criminal justice system 2021*. Available at: https://ec.europa.eu/eurostat/databrowser/product/page/CRIM_JUST_JOB (3/20/2024)

PolStat (2024). *The Number of Police Officers by Rank, and the Number of Division-Specific Person-Work Years in the Legacy Frontline Duties of the Police, 2001–2023, Excluding the Personnel of the Finnish Security Intelligence Service*. Vesa Leppänen (Police Performance Management database), personal communiqué, and XLS (4/5/2024).

Police Barometer Survey 2022 Data (2022). SAV. Police University College, Tampere.

World Bank (2023). *The Worldwide Governance Indicators (WGI) Project, Rule of Law Index Estimate*. Available at: https://databank.worldbank.org/source/worldwide-governance-indicators/ (2/22/2023.)

Literature

Akerlof, G. & Yellen, J.L. (1994). Gang Behavior, Law Enforcement and Community Values. In Aron, H.J., Mann, T.E. & Taylor, T. (eds.), *Values and Public Policy* (pp. 173–209). The Brookings Institution, Washington, D.C.

Allsop, C. (2013). Motivations, Money and Modern Policing: Accounting for Cold Case Reviews in an Age of Austerity. *Policing and Society*, 23(3), 362–375.

Baumol, W.J. (1967). Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis. *The American Economic Review*, 57(3), 415–426.

Baumol, W.J., Blackman, S.A.B. & Wolff, E.N. (1985). Unbalanced Growth Revisited: Asymptotic Stagnancy and New Evidence. *The American Economic Review*, 75(4), 806–817.

Becker, G.S. (1968). Crime and Punishment: An Economic Approach. *Journal of Political Economy*, 76(2), 169–217.

Bottoms, A. & Tankebe, J. (2012). Beyond Procedural Justice: A Dialogic Approach to Legitimacy in Criminal Justice. *The Journal of Criminal Law & Criminology*, 102(1), 119–170.

Bottoms, A. & Tankebe, J. (2021). Procedural Justice, Legitimacy, and Social Contexts. In Meyerson, D., MacKenzie, C. & MacDermott, T. (eds.), *Procedural Justice and Relational Theory. Empirical, Philosophical, and Legal Perspectives* (pp. 85–110). Routledge, London.

Cao, L. (2015). Differentiating Confidence in the Police, Trust in the Police, and Satisfaction with the Police. *Policing: An International Journal of Police Strategies & Management*, 38(2), 239–249.

DeAngelo, G & Hansen, B. (2014). Life and Death in the Fast Lane: Police Enforcement and Traffic Fatalities. *American Economic Journal: Economic Policy*, 6(2), 231–257.

den Heyer, G. (2017). Policing Cost Reduction Strategies: An International Survey. *Journal of Policing, Intelligence and Counter Terrorism*, 12(1), 16–33.

Fyfe, N.R., Terpstra, J. & Tops, P. (eds.) (2013). *Centralizing Forces? Comparative Perspectives on Contemporary Police Reform in Northern and Western Europe*. Eleven International Publishing, The Hague.

HE (72/2006). *Hallituksen esitys eduskunnalle laiksi poliisin hallinnosta annetun lain muuttamisesta ja eräiksi siihen liittyviksi laeiksi.* Available at: https://www.finlex.fi/fi/esitykset/he/2006/20060072 (6/8/2022).

HE (15/2013). *Hallituksen esitys eduskunnalle laiksi poliisin hallinnosta annetun lain muuttamisesta ja eräiksi siihen liittyviksi laeiksi*. Available at: https://www.finlex.fi/fi/esitykset/he/2013/20130015 (6/8/2022).

Holmberg, L. (2014). Scandinavian Police Reforms: Can You Have Your Cake and Eat It, Too? *Police Practice and Research*, 15(6), 447–460.

Hough, M. (2021). *Good Policing. Trust, Legitimacy and Authority*. Policy Press, Bristol.

Hough, M., Jackson, J. & Bradford, B. (2013). Trust in Justice and the Legitimacy of Legal Authorities: Topline Findings from a European Comparative Study. In Body-Gendrot, S, Hough, M., Levy, R., Kerezsi, K. & Snacken, S. (eds.), *European Handbook of Criminology* (pp. 243–265). Routledge, London.

Innes, M. (2010). A 'Mirror' and a 'Motor': Researching and Reforming Policing in an Age of Austerity. *Policing: A Journal of Policy and Practice*, 4(2), 127–134.

Jackman, P.C., Clay, C., Coussens, A.H., Bird, M.D. & Henderson, H. (2021). 'We Are Fighting a Tide That Keeps Coming Against Us': A Mixed Method Exploration of Stressors in an English County Police Force. *Police Practice and Research. An International Journal*, 22(1), 370–388.

Jackson, J., Bradford, B., Hough, M., Kuha, J., Stares, S., Widdop, S., Fitzgerald, R., Yordanova, M. & Galev, T. (2011a). Developing European Indicators of Trust in Justice. *European Journal of Criminology*, 8(4), 267–285.

Jackson, J., Bradford, B., Hough, M., Myhill, A., Quinton, P. & Tyler, T.R. (2012). Why Do People Comply with the Law? Legitimacy and the Influence of Legal Institutions. *British Journal of Criminology*, 52(6), 1051–1071.

Jackson, J., Hough, M., Bradford, M., Pooler, T., Hohl, K. & Kuha, J. (2011b). *Trust in Justice: Topline Results from Round 5*. Available at: http:// eprints.lse.ac.uk/41680/ (12/10/2021).

Karnaranta, A. (2019). *Valvonta- ja hälytystoiminnan tila. Selvityshankkeen loppuraportti*. Poliisihallitus, Helsinki.

Kietäväinen, T., Oulasvirta, L. & Uusitalo, R. (2022). *Selvitys poliisin määrärahojen käytöstä ja määrärahojen riittävyyteen liittyvistä tekijöistä.* Ministry of the Interior, Helsinki.

Kurenmaa, T. (2018). *Rikostorjunnan tila. Selvityshankkeen loppuraportti.* Poliisihallitus, Helsinki.

Krippendorf, K. (2013). *Content Analysis. An Introduction to Its Methodology.* Sage, Los Angeles.

Kääriäinen, J. (2018). Trust in the Finnish Police and Crime Reporting—Findings in the Context of the Nordic Countries. In Oberwittler, D. & Roché, S. (eds.), *Police–Citizen Relations across the World: Comparing Sources and Contexts of Trust and Legitimacy*. (pp. 284–301). Routledge, London.

Mansikka-aho, H. (2021). *Poliisi, mistä tulet, minne menet? Valtionhallinnon rakenneohjelmien tavoitteiden toteutumisen arviointi poliisin hallintorakenneuudistuksissa.* Tampere: University of Tampere.

Ministry of the Interior (2023). *Poliisibarometri 2022. Kansalaisten arviot poliisin toiminnasta ja Suomen sisäisen turvallisuuden tilasta.* Ministry of the Interior, Helsinki.

Nykänen, J. (2022). *Lupahallinnon tila. Selvityshankkeen loppuraportti*. Poliisihallitus, Helsinki.

Nägel, C. & Vera, A. (2021). More Cops, Less Trust? Disentangling the Relationship between Police Numbers and Trust in the Police in the European Union. *Policing: A Journal of Policy and Practice*, 15(2), 939–949.

Ojo, A., Evans, R. & Karecha, J. (2017). Repercussions of the Coalition Governments Austerity Policy on Community Safety across Merseyside. *Policing: A Journal of Policy and Practice*, 14(2), 389–403.

O'Neill, M. (2014). Ripe for the Chop or the Public Face of Policing? PCSOs and Neighbourhood Policing in Austerity. *Policing: A Journal of Policy and Practice*, 8(3), 265–273.

Oosthuizen, J. (2022). Police Numbers, Austerity, and the Impact on Public Confidence. *Academia Letters*, Article 4610. https://doi.org/10.20935/AL4610

Rantatalo, O., Lindberg, O. & Hällgren, M. (2020). Criminal Investigation in Rural Areas: How Police Detectives Manage Remoteness and Resource Scarcity. *Policing: A Journal of Policy and Practice*, 15(2), 1352–1366.

Ristola, J. & Karnaranta, A. (2023). *Arvio poliisin hallintorakenteesta ja kehittämisvaihtoehdoista. Takaisin ihmisten pariin*. Ministry of the Interior, Helsinki.

Sindall, K. & Sturgis, P. (2013). Austerity Policing: Is Visibility More Important Than Absolute Numbers in Determining Public Confidence in the Police? *European Journal of Criminology*, 10(2) 137–153.

SM (2007). *Poliisin hallintorakenteen kehittämistyöryhmän väliraportti.* Sisäasiainministeriö, Helsinki.

SM (2008). *Poliisin hallintorakenteen kehittämistyöryhmän (PORA) loppuraportti*. Sisäasiainministeriö, Helsinki.

SM (2012). *Poliisin hallintorakenneuudistus Pora III – päälinjaukset*. Sisäasiainministeriö, Helsinki.

SM (2013). *Poliisin hallintorakenneuudistus Pora III – täydentävät päälinjaukset.* Sisäasiainministeriö, Helsinki.

Stassen, R. & Ceccato, V. (2019). Police Accessibility in Sweden: An Analysis of the Spatial Arrangement of Police Services. *Policing: A Journal of Policy and Practice*, 15(2), 896–911.

Su, M. (2020). Discretion in Traffic Stops: The Influence of Budget Cuts on Traffic Citations. *Public Administration Review*, 81(3), 446–458.

Turnbull, P.J. & Wass, V. (2015). Normalizing Extreme Work in the Police Service? Austerity and the Inspecting Ranks. *Organization*, 22(4), 512–529.

Tyler, T.R. (1990/2006). *Why People Obey the Law.* Princeton University Press, Princeton.

Van Reenen, P. (1999). The 'Unpayable' Police. *Policing: An International Journal of Police Strategies and Management*, 22(2), 133–151.

Vollaard, B. & Koning, P. (2009). The Effect of Police on Crime, Disorder and Victim Precaution. Evidence from a Dutch Victimization Survey. *International Review of Law and Economics*, 29(4), 336–348.

Vuorensyrjä, M. (2018). Police Management Reform, Labor Productivity, and Citizens' Evaluation of Police Services. *Policing: An International Journal of Police Strategies & Management*, 41(6), 749–765.

Vuorensyrjä, M. (2021). The Cost Disease Blues—Do the Police Suffer from Baumol's Cost Disease? *Policing: An International Journal of Police Strategies and Management*, 44(1), 147–160.

Vuorensyrjä, M. (2023a). Downsizing and Recovery: Perceived Quality of Police Services in Finland Before, During, and After Three Major Police Management Reform Programs*, Policing: A Journal of Policy and Practice*, 17, DOI: 10.1093/police/paad053.

Vuorensyrjä, M. (2023b). Legitimiteetti. In Vuorensyrjä, M. (ed.), *Siniset klassikot. Poliisi- ja kriminologian alan moderneja klassikkotutkimuksia 2* (pp. 31–76). Poliisiammattikorkeakoulu, Tampere.

Vuorensyrjä, M., Hoffren, M. & Laitinen, K. (2016). Tuottavuuspaine julkisen sektorin työvoimaintensiivisessä palvelutuotannossa. Poliisihallinnon henkilöstön näkökulma. *Hallinnon tutkimus*, 35(2), 147–163.

2. The Dark Side of the Dark Figure of Crime

A Study of Victims Who Leave Crimes Unreported Out of Fear of Reprisal

Matti Vuorensyrjä

Abstract

Background and the research questions: Leaving a crime unreported out of fear of reprisal is a personal loss. It is also a significant problem from the point of view of the law, and of the rule of law. The research questions of the current study revolve around these themata, and are partly exploratory, partly theory-driven. How to characterize the victims of crime who do not report crimes to the police due to fear of reprisal? What are their key demographic features compared to other victims of crime? Are they economically disadvantaged or well-to-do? Where do they come from, as regards the police districts of mainland Finland? What is the effect of their personal history on fear-based non-reporting? Specifically, what is the predictive power of violent crimes experienced earlier on in life, in this respect?

Data: The data of the study derive from the latest Police Barometer Survey (PBS) conducted in the autumn of 2022. The survey targeted the adult population (15–75) of mainland Finland. The size of the random sample was 8,500, with 47.6% response rate and N = 4,044. There were 2,634 victimized persons in the data set (weighted data, victimization over lifetime), of whom 121 (4.6%) had left at least one crime unreported for the reason that they were afraid of reprisal.

Methods: The study is based on binary logistic regression analyses. It was not possible to incorporate all independent variables of interest into one single model, due to insufficient number of observations; 16 different models were estimated, therefore, in the study.

Findings: People who do not report crimes to the police out of fear of reprisal tend to be young, female, and disadvantaged in terms of yearly gross income and other hierarchical variables (education, employment), rather than old, male, or well-to-do. The variables of violent crime victimization—assaults, sexual offences, and armed threats experienced over lifetime—were the most powerful predictors of fear-based non-reporting. The odds of victims with a history of violent crime victimization to non-report for the reason of fear of reprisal were significantly higher (×3.7–×8.1) than the odds of other victims of crime (×1.0).

Limitations: The data are cross-sectional, allowing for no causal conclusions, in addition to which the data may suffer from problems related to the temporal sequence of the events (dependent vis-à-vis independent variables). Fear-based non-reporting, furthermore, is rare. The target group of the study was small, which was a methodological constraint in the study. It was not possible to put all independent variables of interest into one single model. This may have affected the results of the study. In non-experimental studies the presence versus the absence of controls and co-predictors has the power to alter parameter estimates.

Keywords: fear of reprisal, victimization, prospect theory, theory of availability heuristic, theory of mortality salience, high-risk decision-making situation, physical violence, death threat, assault, sexual offence, armed threat, the dark figure of crime, unreported crime, non-reporting

2.1 Background and the Research Questions

2.1.1 Definitions

"The dark figure of crime" refers to unreported crime. The primary means of studying crimes that are not reported to the police and that will never end up in police records have been surveys that target random samples of citizens. Reference can be made to recurring cross-sectional studies such as the Crime Survey for England and Wales (CSEW), the Scottish Crime and Justice Survey (SCJS), the National Crime Victimization Survey in the US (NCVS), and the Nationella trygghetsundersökningen in Sweden (NTU) (for a short history of the concept of "the dark figure of crime," and of victimization studies, especially with regard to the origins of the British Crime Survey, see Castelbajac, 2014). In Finland, the survey administered by the Institute of Criminology and Legal Policy (National crime victimization survey) provides a long-term outlook upon unreported crime. Unreported crime is also one of the targets in the Police Barometer Survey (PBS), the data of which we will be using in the current study.

There are many different data sources and methods—other than victimization studies—that have been used in the analysis of the dark figure of crime.[10] Our approach in the current paper is traditional, however, in that it relies on victimization survey data.

Taking a first, preliminary look at the PBS data, one finds that the most important reason for not reporting a crime to the police—or, more properly, an incident that the respondent, subjectively, considers a crime—has been that the incident has not been serious enough to be reported. The finding falls in line with other victimization studies (see the literature review in section 2.2 of this article). The incident has been "too trivial, not worth reporting" (CSEW), or "not important enough" to be reported (NCVS), or, as the alternative is formulated in the PBS, "I didn't think the crime was serious enough."

In the latest PBS 2022 data, triviality accounted for approximately 21%–54% of the reasons for the dark figure of crime, depending on the category of crime. In cases of armed threats, triviality was cited by 21% of the respondents, whereas in cases of thefts of property the proportion was 54%.

Only in the case of assaults this reason for non-reporting (32%) was outnumbered by another reason: "I thought it was a private matter" (33%; note that the respondent had the opportunity to cite several different reasons for non-reporting, not just one reason; in part, therefore, the alternative reasons are overlapping). In the case of armed threats (21%), triviality was rivaled by "fear of reprisal" (21%). Otherwise, in other crime categories, triviality was the most important reason for not reporting the incident to the police.

The current study focuses on fear of reprisal as a reason for not reporting a crime to the police. This is "the dark side of the dark figure of crime." The victim, being afraid of the consequences of reporting, has decided against it.

This is a personal loss to the affected individual victim. The law has been written to protect the rights of all individual citizens in an equal manner, but here, in this case, the victim doesn't actually get the protection s/he would be entitled to.

Crimes going unreported due to fear of reprisal constitute a loss also to the polity. It is not only that a fair majority of individual citizens are bound to consider such an outcome—the victim being unwilling to report a crime out of fear of reprisal, thus losing her or his right to protection—deeply unjust. The principle of commonly agreed upon rules of the polity itself is being violated. This is particularly severe if the offender has played the strategy of intimidation in any way. For in that case the violation goes intentionally against the constitutive principle of the rule of law. It is being replaced by the rule of brutes. Thereby, going against the very principle that upholds the polity as a constitutional liberal democracy, the violation enters the utility function of all individual citizens, and not just as any factor, but as one of the most destructive negative externalities there are (Aumann, 1959; Binmore, 2004; Vuorensyrjä, 2019).

2.1.2 Research questions

The research questions of the study are partly exploratory, partly based on theory-driven hypotheses. How to characterize the people who do not report crimes to the police out of fear of reprisal? Specifically,

1. What are their key demographic features, in terms of age and gender, compared to other victims of crime?
2. Are they economically disadvantaged or are they well-to-do, considering their education, labor market status, and yearly gross income?
3. Where do they come from, as regards the police districts of mainland Finland?
4. What is the effect of their former life experiences on fear-based non-reporting? Specifically, what is the predictive power of violent crimes experienced earlier on in life, in this respect—assaults, sexual offences, and armed threats experienced over lifetime?

We do not pose any hypotheses concerning *age*. *Gender*, however, is another matter.

Females are less prone to violent behavior than males. Psychopathy, Machiavellianism, risk-taking behavior, and criminality, committing violent crimes in particular, are all much more common among males than among females. Psychopathy, furthermore, is one of the most important predictors of serious violent crime (Kinner, 2003). Death threats are common in many different contexts, including the contexts of domestic violence and intimate partner and ex-partner violence, where the offenders are predominantly male, and the victims are female. The same applies to stalking; more often than not, stalkers are male and their victims are female (Morewitz, 2008, p. 6, p. 19, p. 33, pp. 36–39, pp. 43–45; on female victimization and fear of reprisal, see also Singer, 1988; Felson *et al.*, 2002; Marosy, 2009). And, of course, genetic differences and the associated evolutionary strategies are on the background of almost all serious sexual offences (Mealey, 2003).[11]

The fact is, then, that the probability of women (men) to suffer from domestic violence and intimate partner and ex-partner violence, stalking, and sexual offences (to act as perpetrators in such crimes), is significantly higher than that of men (women). This is important for the reason that, empirically, fear-based

non-reporting has been observed to be closely associated with violent crime, especially assaults, aggravated assaults and sexual offences. The standard PBS 2022 report, for example, says that the probability of fear-based non-reporting is highest in cases where the initial crime has been violent. Fear of reprisal as a reason for not reporting a crime to the police was mentioned by 9–21% of the respondents when the crime against the respondent had been violent (9% in case of sexual offences, 13% for assaults, and 21% for armed threats). For other crime categories the share ranged between 0–4% (being highest for burglaries or attempted burglaries, 4%, and lowest for car thefts or attempted car thefts, 0%) (Ministry of the Interior, 2023, pp. 113–120). Findings from both fear of reprisal research (studying intimidation *ex-ante* the criminal procedure) and witness intimidation research (intimidation *ex-nunc* or *ex-post* the criminal procedure) point towards the same conclusion: non-reporting is often associated with cases where the initial crime has been violent (Singer, 1988; Davis *et al.*, 1990; Tarling *et al.*, 2000; Felson *et al.*, 2002; Jansson, 2005; Skinnari *et al.*, 2019; Timonen, 2020).

It will be assumed, therefore, that

H1–1: The Gender Hypothesis	Non-reporting out of fear of reprisal is more common among females than males.

This goes against the findings from general non-reporting literature, according to which male victims of crime have a higher propensity to non-report than females (Singer, 1988; Felson *et al.*, 2002; Gingerich & Oliveros, 2018). This is also the case within the PBS data, if and in so far as one considers gender-specific rates of general non-reporting. Women are more conscientious reporters than men. In case of non-reporting due to fear of reprisal, however, we expect the roles to be reversed.

The hypothesis would probably apply not only to females but also to people characterized by an LBGTQ+ identity (see Tillewein *et al.*, 2023). This cannot be tested, however, as we do not have enough observations in the data set to incorporate the other genders into the analysis, along with females and males.

We do not pose any hypotheses concerning the effects of hierarchical variables—*yearly gross income*, *the level of education*, *the labor market status*—on fear-based non-reporting. The same applies to *the police district variable*.

Empirically, crime, victimization, and non-reporting crime, all tend to be concentrated on the economically and culturally disadvantaged groups of people, and on deprived neighborhoods. Fohring (2014), for example, using the comprehensive Scottish SCJS data, found that exactly the same independent variables that were successful in predicting victimization were successful in predicting general non-reporting. Victimized persons and non-reporters were young (16–24), male, urban city dwellers from disadvantaged neighborhoods. They were also characterized by unemployment, and by a personal history of offending, measured by prison sentences on the one hand, and by time spent in young offenders' institution on the other hand. Furthermore, using the Scottish Index of Multiple Deprivation (SIMD) to depict geographical differences, Fohring found that the prevalence of violent crime goes hand in hand with the SIMD indicator. Victimization increased from 9% to 19%, 21%, 25% and to 25%, by the SIMD quintiles. The same pattern in relation to the level of deprivation held also when Fohring considered personal crime, *i.e.*, incidents of crime committed by the respondents themselves (Fohring, 2014, pp. 8–13). Theoretically, however, the explanation for these strong centripetal tendencies is unclear, which is why our approach to these predictors remains exploratory.

Violent crime victimization can be expected to increase the probability of fear-based non-reporting. There are two theoretical aspects to the proposition.

1. Human decision-making is characterized by risk-avoiding behavior. *The prospect theory* discovered by Kahneman and Tversky (1979) suggests that, for an ordinary decision-maker, great losses weigh much more than great gains: bad prospects weigh much more in human decision-making than good prospects.

The slope of the individual utility schedule u as a function of increasing costs C (measured in some absolute scale of costs) is steeper than the slope of the individual utility schedule as a function of increasing benefits B (also measured in some absolute scale of benefits).[12] In other words, the utility function is not linear, and the shape of the function is different in the negative zone, compared to the positive zone, with a given reference point (zero, the decision-maker's current state of affairs) (see Kahneman & Tversky, 1979, p. 279, and *passim*).[13] Hence, if the victim of crime suffers from fear of serious additional loss that s/he associates with the act of reporting the crime, the probability of her or his reporting can be expected to be significantly reduced.

2. This is not all there is to it for those who have experienced violence in life. Violent crime victimization creates vivid memories.[14] Such experiences have salience in the sense that they are easy for the victim to recall, especially if victimization has been recurring, but even in cases where victimization has been a one-off incident. The memory is readily available to the individual victim, at all (closely associated, similar) times.

Tversky and Kahneman (1973) have analyzed the implications of such an emotional and cognitive availability from the point of view of its implications to human decision-making. Their *theory of availability heuristic* starts with the simple notion according to which any *high frequency event* e_h is readily available to the individual decision-maker, say *i*. It is almost always present, so it is easy for the individual to recall, when the occasion arises. In other words, its *availability* H_i in the mind of the decision-maker $H_i(e_h)$ is high. *The objective probability* p of a frequent event $p(e_h)$ is also high.

This is something that the human mind has adapted to, in the course of evolution. Availability of an event is usually a good proxy for the event being of a high frequency variety, which, for its part, goes with high objective probability. Tversky and Kahneman's idea was that the human mind, in all likelihood, takes advantage such empirical regularities, and adjusts subjective estimates of probabilities of events $E_i(e_h)$ on the basis of their availability.

But there is a catch. The theory of availability heuristic also points out that, the path, as an inference, is not logically valid. For the fact that an event is readily available to the individual does not imply that it is a high frequency, high probability event. This is because there are several other factors, along with frequency, that can and do affect the availability of an event in the human mind. A vivid personal memory of an event is one of the primary examples of such other factors (Tversky & Kahneman, 1973, pp. 228–229, and *passim*). A low frequency event e_l, if supported by a vivid (here: Bad) memory, $B_i(e_l)$, may be readily available to the individual, so that $H_i(e_l)$ is high. Hence, if and in so far as availability contributes to the subjective probability estimates of events, as originally suggested by Tversky and Kahneman, the estimates may be biased—e_l may be a low frequency, low objective probability event, with a high subjective probability estimate $E_i(e_l)$, mediated by high availability $H_i(e_l)$, due to idiosyncratic $B_i(e_l)$ (Figure 2.1).

This is more than a mere possibility. In several distinct experimental studies, Tversky, Kahneman and colleagues have demonstrated that human decision-makers are prone to errors caused by availability heuristic (Tversky & Kahneman, 1973; see also Slovic *et al.*, 1982; Schwartz & Vaughn, 2002).

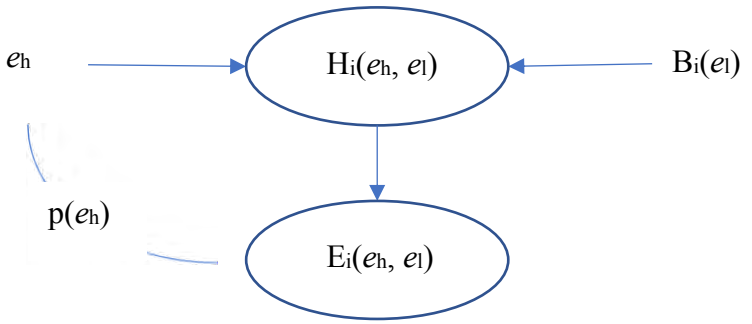

Figure 2.1 The Theory of Availability Heuristic: An Interpretation of the Structure and Core Concepts of Tversky and Kahneman's Theory

The prospect theory is universally valid for human decision-makers. Human decision-makers are risk-averse, in the main. Bad prospects attract human attention, and have a strong effect on human decision-making. In the subset of those who have been violently victimized in life, the implications of the theory of availability heuristic combine with, and add to, the implications of the prospect theory. The very bad experience(s) from one's own personal history is (are) readily available, at all (closely associated, similar) times, affecting subjective probability estimates of the individual, and thus also her or his decision-making and behavior.

The offender may or may not consciously play the strategy of intimidation. They often do, for the strategy of intimidation provides the offender a direct route to personal gain—not getting caught for the initial crime they have committed.[15] Yet, in the end, it is the mind of the victim, her or his subjective preferences and subjective probabilities, that are decisive from the point of view of her or his behavior, including reporting versus non-reporting.

It will be assumed that,

H1–2: The Violent Crime Victimization Hypothesis	Non-reporting out of fear of reprisal increases as a function of violent crime victimization.

We will also control for the following interaction effects in the models of the study: assault × armed threat experienced; assault × sexual offence experienced; armed threat × sexual offence experienced, and; assault × armed threat × sexual offence experienced. We do not pose any hypotheses concerning the interaction effects. Surprisingly, as may be noted herein already, there were enough observations even for the three-way interaction term in the data set. That is to say, there were respondents who had suffered from all three types of violent crimes over the course of their lives (assault, sexual offence, armed threat).

2.2 Literature Review

2.2.1 Search Terms

The following search terms were used to find peer-reviewed journal articles on fear-based non-reporting. The yield from the restricted approach (#1) was meagre, so the search was extended, in the second phase of the search (#2).

1. [Fear of reprisal] AND [Victim OR Victimization OR Dark figure of crime OR Hidden crime OR Under-reporting crime OR Unreported crime]
2. [Fear of reprisal]

Three general conclusions can be drawn from the review. While the scholarly literature on general non-reporting is extensive, on fear-based non-reporting it is scarce. The most important relevant studies found in the process were Singer (1988), Felson *et al.* (2002), Powers and Hayes (2022), Kivisto and Mills (2023), and Tillewein *et al*. (2023). Some of the studies on general non-reporting were also useful, particularly Moreira *et al*. (2018), and Comino *et al.* (2020) (see also Slocum, 2018).

Theoretically, both of these lines of research are thin. No theoretical explanation (proper), whether for fear-based non-reporting or non-reporting in general, has emerged, to date. The bulk of scholarly work conducted has been empirical.

2.2.2 Studies on Non-Reporting Due to Fear of Reprisal

Singer (1988) analyzed fear-based non-reporting using the NCVS data from 1974 and 1975. The data came from 13 different cities, five of which were among the largest in the US. The incidents Singer concentrated on were crimes in which there had been direct contact between the victim and the offender (personal crimes). These were either attempted or completed acts of violence, or acts of personal theft. In approximately 53.5% of these cases the crime had not been reported to the police (10,883/20,417) and in approximately 5.1% of the non-reported cases the reason for non-reporting had been fear of reprisal (517/10,883). The estimate came close to Hindelang's (1976, as cited by Singer, 1988, p. 290) similar early estimate (4%).

Singer (1988) estimated his final logit model in a subsample of non-reporters, excluding victims who reported the incidents to the police. Of the victim-specific control variables, ethnic background, gender, and education proved to be statistically significant predictors of fear-based non-reporting. Respondents citing fear of reprisal as a reason for non-reporting were more likely than the others to be nonwhite, female, and to have lower than average level of education.

All statistically significant offence-related predictor variables pointed to what was the single most important conclusion of Singer's (1988) study: the more serious the incident, the more likely it was that fear of reprisal was cited as the reason for not reporting it to the police. Specifically, if the crime in question was rape, if weapon was used, if the crime was completed and not merely an attempt, if the crime was repeated, if it was committed by one's spouse, and if the crime happened in one's home, it was more likely to be left unreported for the reason of fear of reprisal (Singer, 1988, pp. 297–299).

Both of Singer's (1988) key conclusions went against the findings from the general non-reporting studies of earlier literature. Female victims' propensity to report is generally higher than that of male victims, on the basis of findings from general non-reporting literature. And the more serious the crime, the more likely it is that it will be reported to the police, according to the general non-reporting literature.

Felson *et al.* (2002) used sequential logit model to analyze *reasons for reporting* cases of domestic violence to the police. They also analyzed *reasons for not*

reporting these crimes to the police. Their data came from the NCVSs 1992–1998, with a full set of potential reasons for both reporting and non-reporting (the latter of which included "fear of reprisal").

According to Felson *et al.* (2002), the most important reason for reporting an incident of domestic violence to the police was self-protection. There were two distinct aspects to self-protection, immediate protection ("to stop the incident," cited by 16.7% of those who reported), and protection from similar future incidents ("protection from future attack," 19.9%). The motive of self-protection was particularly strong in cases where the offender was the victim's partner, and female victims were more likely to call the police for protection, compared to male victims (Felson *et al.*, 2002, p. 633, pp. 637–640, see especially their Table 4 in p. 638).

The two most important reasons for not reporting the incident to the police were triviality and privacy (the matter was "trivial" or "private"). Female victims of male partner offenders, however, were much less likely than respondents on average to cite triviality as a reason for not reporting the incident, even though they were slightly more likely than average to consider the incident private (Felson *et al.*, 2002, pp. 635–640).

Fear of reprisal was among the least often cited reasons for not reporting the incident to the police (3.4% of non-reporters), along with "not important to the police" (4.0%) and "protecting the offender" (2.9%). In the subsample of the final sequential logit model, which consisted of a combination of (a) those who reported for self-protection and (b) those who did not report the incident to the police (a + b combined), the share of those who non-reported out of fear of reprisal was 2.4%. In Felson and colleagues' final model the estimated probability of non-reporting out of fear of reprisal was 0.017. For female (male) victims of male (female) partner offenders, however, it was 0.049 (0.013) (Felson *et al.*, 2002, pp. 631–632, p. 638, see also p. 635).

The findings coincided with Felson *et al.*'s (2002) analytical expectations. In the analytical part of their study they noted that, 1. females are less prone to violent behavior than males, and that, 2. in cases of domestic violence, the threat of further victimization in the future cannot be ruled out. Hence, as hypothesized by Felson and others (2002, p. 623), "The likelihood of fear of reprisal as an inhibitor for calling the police should be especially high in assaults involving female victims, male offenders, and a partner relationship," which, indeed, proved to be the case.

Felson and others (2002) ended up their discussion in a positive note. The likelihood of reporting to get protection was significantly higher among the female victims of domestic violence than the likelihood of non-reporting out of fear of reprisal (*ibidem*, p. 640).

As a final note on Felson *et al.*'s (2002, p. 635) study it deserves to be pointed out that earlier violent victimization, *i.e.*, having been attacked previously, which was one of the control variables in their study, had a statistically significant, technically positive (+) effect on fear-based non-reporting. Other such control variables were the victim having suffered injuries in the incident (+), the offender having been armed (+), and the incident having taken place in the victim's home (+) (*ibidem*).

Marosy (2009) used the NCVS data from 2006 to analyze victims of violent crime, and reporting and non-reporting decisions by these victims. Her data consisted of 1,775 incidents of violent crime: rapes, sexual assaults, assaults, aggravated assaults, verbal threats, and robberies. The general (non-)reporting rate was 48% (52%). The most important reason for non-reporting was that the incident was considered a "private matter." Fear of reprisal was cited by 9.8% of non-reporting victims. A statistically significant difference was detected between female and male victims of violent crime in non-reporting due to fear of reprisal. Fear of reprisal was cited by 13.9% of non-reporting female victims of violent crime. For non-reporting male victims of violent crime, the share was 6.1%.

Powers and Hayes (2022) used the NCVS data from 2016–2020 to analyze violent crime *reporting*, and reasons for *non-reporting*, in cases where the victims had different types of disabilities. They also compared these groups of victims to those without disabilities. The violent crimes studied by Powers and Hayes were assaults, aggravated assaults, sexual assaults and robberies. Disability categories were 1. deafness/blindness, 2. cognitive disabilities, 3. physical disabilities, and 4. no disabilities.[16] Powers and Hayes controlled for several different background, situational, and offender characteristics in their study. Reporting was analyzed with the help of multinomial logistic regression analysis. Reasons for non-reporting were studied with the help of a series of bivariate analyses.

Powers and Hayes (2022, pp. 16–19) found that victims with cognitive disabilities were less likely to *report* incidents of violent crime to the police

than the other groups on average. The same applied to sexual assault as a category of crime; the probability of reporting was decreased. They also found that the probability of females to report was higher than that of males, and that injuries caused by the incident, and weapons used in the incident, increased the probability of reporting.

The most important reason for *not reporting* the incident was that, it was considered "a personal or a private matter." No statistically significant differences were detected between the different groups of respondents in this respect, in terms of their disabilities. In case of fear of reprisal, however, such differences were detected. Victims with physical and cognitive disabilities were more likely than others to cite fear of reprisal as a reason for non-reporting. The overall estimated propensity to non-report out of fear of reprisal was approximately 6.7% (with an exact coefficient 0.0672). For victims with cognitive disabilities it was 10.1%, whereas for victims with physical disabilities it was 13.3%. For victims with no disabilities it was 5.6% (Powers & Hayes, 2022, p. 20; see also Sin *et al.*, 2010).

Kivisto and Mills (2023) analyzed a subsample of 1,590 females of the NCVS data from 2006–2020. All respondents in the subsample had at least one experience of victimization in categories of physical or sexual intimate partner violence. Kivisto and Mills differentiated between three ethnic groups (White/Non-Hispanic; Hispanic; Black/Non-Hispanic) and pregnancy (pregnant; not pregrant) in analyzing reporting vis-à-vis non-reporting and, if the choice was non-reporting, the reasons thereof. The incident was reported to the police in 55.9% of the cases. The three most important reasons for non-reporting were, "it was a private or personal matter" (20.9%), "did not want to get perpetrator in trouble with the law" (19.9%), and "afraid of reprisal by perpetrator or others" (22.5%). Fear of reprisal was more prevalent in the pregnant than in the not pregnant group of victims. The relationship was statistically significant for the Hispanic victims (69.5% of pregnant victims citing this reason compared to 14.2% of not pregnant victims), but not for the White victims (33.1%, 27.6%). In the case of Black victims, no statistical comparison results were reported due to the low number of cell-specific observations (78.9%, 27.2%) (Kivisto & Mills, 2023, pp. 830–831).

Tillewein *et al.* (2023) studied LBGTQ+ students in the US using data from academic year 2019. They explored and analyzed sexual offences experienced

by these students, and non-reporting thereof. According to Tillewein and colleagues' review of earlier literature, LBGTQ+ people suffer from relatively high rates of sexual offences, and non-reporting rates are also very high (at around 90%). Approximately 4–14% of the participants in their own study had experienced a verbal or physical sexual offence. Non-reporting rates ranged between 87% and 92%, depending on the type of offence in question. Non-reporting for the reason that, "thought I would get into trouble," ranged between 5–12%, and was 11% in the most serious offence, "sexual assault."

2.2.3 A Few Studies on Non-Reporting in General

Gingerich and Oliveros (2018) analyzed the effects of observed police misconduct—the respondent having observed police using violence against citizens—on non-reporting crimes in Costa Rica. The dependent variable was actually *self-reported expected non-reporting*, as the dependent variable consisted of respondents' answers to different kinds of hypothetical stories (vignettes), followed by the respondents' own assessments of whether or not they would report such an incident to the police.

Using personal interview data from 2013 that targeted the Gran Área Metropolitana, and the method of logistic regression analysis combined with matched pairs of respondents (similar otherwise, except for the observed police misconduct), Gingerich and Oliveros (2018) found that previous experiences of police brutality had a strong predictive power on expected non-reporting. Expected non-reporting increased as a function of seeing police brutality. The magnitude of the effect ranged between 8–12 percentage points, depending on the crime (on the vignette) in question (*ibidem*, pp. 89–90). Previous experiences of the individual, therefore, such as observing police brutality, were of consequence.

There were fairly large differences in the expected non-reporting rates between different crimes. For theft or attempted theft vignette, the expected propensity to report was 43%, whereas for robbery it was 42%. For witnessed drug trafficking the expected propensity to report was 24% (Gingerich & Oliveros's, 2018, p. 79). Drug trafficking is a serious crime and, in principle at least, the collective benefit/cost ratio from disclosing it is high (*ibidem*, p. 81). This, unfortunately, applies only to the collective benefit/cost ratio, not to the benefit/cost ratio of the individual who reports the incident to the police. The perceived secondary

risks associated with reporting such an incident to the police are high, even extremely high.

Comino *et al.* (2020) studied victimization and non-reporting among undocumented immigrants in the US. Their data combined census data, the NCVS-MSA data (National Crime Victimization Survey, Metropolitan Statistical Areas), and data on applications for the amnesty of immigration status. The amnesty was an opportunity provided to undocumented immigrants in 1986 by the Reagan government. Comino and colleagues' data covered a period of time before and after the "natural experiment" of 1986 (1981–1994). According to their estimates, undocumented immigrants, being afraid of deportation, reported only approximately 17% of the crimes they were victims of to the police, whereas the reporting rate among US citizens was approximately 40%. Right after the amnesty, however, the reporting rate among immigrants increased by an estimated 20 percentage points. Hence, according to Comino and colleagues, undocumented immigrants have a much higher probability of being non-reporters than either legal, documented immigrants or native US citizens.

Furthermore, according to Comino *et al.* (2020), the probability of undocumented immigrants being victimized in the first place was also higher than that of documented immigrants. The results on victimization were not as robust as those on non-reporting, but there is a logical connection between the pair of findings: illegal immigrants are easy prey for criminals exactly for the reason that they have lesser means of protecting their rights by the means of reporting than legal immigrants or native citizens.

In a methodologically interesting study, Moreira *et al.* (2018) used stochastic frontier analysis (SFA) to estimate the dark figure of crime. Their data came from 853 municipalities of Minas Gerais, Brazil, 2004–2011. The estimate of the dark figure of crime by Moreira and others' best model, in the case of violent property crime (their dependent variable, which consisted of theft, robbery, and armed robbery), was 32.7% underreporting rate. This was rather close to the estimates derived from victimization studies, given that victimization studies were characterized by slightly different definitions and methodologies. Victimization surveys gave 40.6% (2012, average rate of underreporting, according to the National Public Security Secretariat data) and 43% (2009, robbery, Minas Gerais,

according to the IBGE, the Brazilian Institute of Geography and Statistics data) underreporting rates.

Moreira *et al.* (2018, p. 782) also reported interesting comparison results from the IBGE 2009 victimization survey. Triviality ("it was not important") was the second most important reason for not reporting robberies (23%), thefts (25%), and assaults (18%), the most important reasons having been, "do not believe in the police" (robberies, 38%), "lack of evidence" (thefts, 26%), and "solved it alone" (assaults, 18%).

"Fear of reprisal" was the third most important reason for not reporting robberies (11%). In thefts it was not among the four most important reasons. In assaults it was the third most important reason for non-reporting (16%), in terms of prevalence (Moreira *et al.*, 2018, p. 782).

2.2.4 Intermediate Summary

Three conclusions can be drawn from the review of earlier literature.

- Findings on fear-based non-reporting are inverse to those on general non-reporting in two distinct respects. Female victims, not male victims, are more likely to non-report out of fear of reprisal. Also, the more serious the crime and the more serious the offender- and situational characteristics associated with the crime, the more likely it is that fear of reprisal will be cited as a reason for non-reporting. Exactly the opposite conclusions are true for non-reporting in general. Male victims are more likely to non-report than female victims. Triviality is the most important reason for non-reporting, and the propensity to report rises on average with the seriousness of the crime (Singer, 1988; Felson *et al.*, 2002; Marosy, 2009; Gingerich & Oliveros, 2018; Moreira *et al.*, 2018).
- People who do not report crimes for the reason that they are afraid of reprisal tend to be vulnerable, in one way or another. The regularity is comprehensively valid. It applies not only to poor people, people living in deprived neighborhoods, low-educated people, and the unemployed, but also to the most disadvantaged ethnic minorities, to illegal immigrants with no access to legal protection, to people with the most debilitating deficiencies, such as cognitive or physical disabilities, to people with

an LBGTQ+ identity, and even to pregnant women with minority ethnic background (Singer, 1988; Comino *et al.*, 2020; Powers & Hayes, 2022; Kivisto & Mills, 2023; Tillewein *et al.*, 2023).

- Decision-making situations that involve fear-based non-reporting appear to be characterized by rationality. *Victims, quite obviously, want to avoid secondary victimization*. According to Felson *et al.* (2002), the most important reason to report an incident of domestic violence to the police is self-protection. The choice is not unconditional, however; the more serious the initial crime, and the more serious the various aspects of the incident, the more probable it is that the reason for the adoption of non-reporting strategy is fear of reprisal (Singer, 1988; Felson *et al.*, 2002; consider, also, the results from studies by Gingerich & Oliveros, 2018; Comino *et al.*, 2020; and Moreira *et al.*, 2018). *Offenders appear to be predatory* in the sense that they abuse victims with little or no opportunity to protection—the most vulnerable victims. The phenomenon is comprehensive, as established. Fear of reprisal as a reason for non-reporting is systematically more common among the vulnerable groups of people than among other groups of people (Felson *et al.*, 2002; Gingerich & Oliveros, 2018; Moreira *et al.*, 2018; Comino *et al.*, 2020; Powers & Hayes, 2022; Kivisto & Mills, 2023; Tillewein *et al.*, 2023; see also Chapter 3 in this book).

2.3 Data

Fear-based non-reporting is rare. This raises the bar for data requirements. A large data set is needed.

The data from the latest Police Barometer Survey can be used for the purpose of the current study, even though the random sample of the study was small (8,500), with N = 4,044 observations in the final data set. The practicability of the data derives from the manner in which the question on victimization was posed to the respondents of the PBS. The question was concerned with lifetime victimization, not with victimization during the last twelve months or so,

> "Have you been the victim or target of any of the following crimes? If you have, when was the latest case?" [This year (2022); Last year (2021); 2–4 years ago (2018–2020); More than 4 years ago (2017 or before); Never; Don't know].

As a follow-up question, it was asked,

> "If you have been the victim of a crime, did you report it to the police? On each row, select the alternative that matches your situation." [Yes, I reported it to the police; No, I did not report it to the police; I have not been the victim of such a crime.]

The crime category specific rows in both of these matrix-type of questions were, "Burglary or attempted burglary," "Theft of property," "Damage to property," "Assault," "Car theft or attempted car theft," "Threat using firearms,"[17] "Sexual harassment or violence," "Cybercrime (data breach, fraud, identity theft *etc.*)," "Other crime or obstruction."

Next, it was asked, again as a crime category specific question,

> "Why did you not report to the police the crime of which you were the victim? Respond only if you were the victim of a crime but did not report it to the police." [One of the alternative reasons for non-reporting in the list, for each category of crime, was "Fear of reprisal"].

Hence, even though the number of victims in any given category of crime in any given year is small, the data were sufficient for the analysis as the outlook on victimization covered individuals' entire lifetime. Great care must be taken, nonetheless, as regards the sufficiency of the number of observations in the analyses of the study.

There were 2,634 respondents in the data who had been victimized at least once over lifetime (65.1% of all respondents), 121 of whom had not reported the latest crime in some of the different crime categories to the police, out of fear of reprisal (4.6% of victimized respondents). Weighted data are used throughout the study. However, because the number of observations in the target variable was low, all models were checked up also with the help of unweighted data to ensure that the number of the cell-specific observations was sufficient for the analysis.

Table 2.1 describes the data of the study. Three groups of respondents are referred to, in Table 2.1: all respondents, all victimized respondents (victimization over lifetime, at least once), and victimized respondents for whom at least one crime is known to have gone unreported due to fear of reprisal.

Table 2.1. Descriptive statistics

	Victims of crime (victimization over lifetime), for whom at least one crime is known to have gone unreported due to fear of reprisal	Victims of crime (victimization over lifetime)	All respondents
Gender			
Female	74.0%	49.7%	49.8%
Male	26.0%	50.3%	50.2%
N (missing)	119 (2)	2,617 (17)	4,011 (33)
Age			
–29	32.7%	17.7%	21.7%
30–49	38.6%	37.2%	33.9%
50–64	21.0%	28.2%	25.5%
65–	7.7%	16.9%	19.0%
N (missing)	121 (0)	2,634 (0)	4,044 (0)
Labor market status			
Employed	56.3%	62.7%	58.4%
Unemployed	8.4%	4.4%	4.6%
Not in the labor force	35.3%	32.9%	37.0%
N (missing)	111 (10)	2,582 (52)	3,950 (94)
Education			
Primary	21.4%	15.7%	20.4%
Secondary	46.8%	45.8%	45.1%
Tertiary	31.9%	38.6%	34.5%
N (missing)	114 (7)	2,572 (62)	3,903 (141)
Yearly gross income			
≤ 10 000 €	20.5%	11.6%	14.8%
10 001–25 000 €	35.1%	25.2%	27.2%
25 001–50 000 €	29.1%	42.0%	39.9%
> 50 000 €	15.2%	21.3%	18.1%
N (missing)	108 (13)	2,502 (132)	3,775 (269)
Police district			
Helsinki	17.5%	13.1%	12.4%
Eastern Uusimaa	8.7%	11.3%	10.3%
Southeastern	3.7%	4.4%	4.5%
Western Uusimaa	9.3%	8.7%	8.7%
Häme	3.8%	6.9%	6.8%
Central Finland	21.4%	15.3%	15.3%
Ostrobothnia	4.2%	6.3%	7.3%
Southwestern	12.8%	12.8%	13.0%
Eastern Finland	6.4%	9.8%	10.2%
Oulu	10.6%	8.4%	8.3%
Lapland	1.7%	3.1%	3.2%
N (missing)	121 (0)	2,634 (0)	4,044 (0)

2.4 Methods

2.4.1. Logistic Regression Analysis

The study is based on binary logistic regression analysis. The state of affairs of interest (y_i) is strictly dichotomous for all individuals in all models of the paper. Each model predicts the probability p that the individual belongs to the group of victimized persons for whom there is at least one latest crime in some of the crime categories that has gone unreported due to fear of reprisal $p(y_i)$. The inverse of this probability $1-p(y_i)$ denotes the probability that the individual belongs to the group of all other victims of crime. Individuals in the latter group have either reported all latest crime incidents to the police, or, if not, there has been some other reason for not reporting one or several of these incidents to the police—other than fear of reprisal, that is; most often, triviality of the incident.

The odds are

$$\frac{p(y_i)}{1-p(y_i)}. \qquad (2.1)$$

The odds ratio is a measure of change in the odds—a change, for example, that takes place in the odds from one group of individuals to some other group, or a change that takes place in the odds when an independent variable measured at ratio scale grows one unit in its own scale.

Binary logistic regression takes the following form in empirical analysis. The odds, measured in proportional scale, are linearly dependent on a vector of independent variables.

$$ln\left(\frac{p(y_i)}{1-p(y_i)}\right) = b_0 + b_k X_{ki} + u_i. \qquad (2.2)$$

Solving for $p(y_i)$ gives

$$p(y_i) = \frac{1}{1+e^{-(b_0+b_k X_{ki}+u_i)}} \qquad (2.3)$$

X_k is a vector of k predictive variables. In the current study, predictive variables consist of demographic control variables (age group, gender), a proxy for the hierarchical variables (yearly gross income), police district (the 11 police districts

of mainland Finland) and three dichotomous violent crime variables signifying whether (1) or not (0) the respondent has experienced a given type of crime at least once over lifetime (assault, armed threat, sexual offence). The disturbance term u captures the error of the model and e is the base of natural logarithm.

In reporting, reference is made to exponential forms of predictor-specific coefficients b_k,

$$EXP(b_k) \equiv e^{b_k} \equiv OR_k. \qquad (2.4)$$

In this case—using e^{bk} instead of b_k—the linear no-effect-standard (H_0) for parameter estimates is not zero ($b_k = 0.0$), as in equation 2.2, but one ($e^{bk} = 1.0$). Hence, assuming that H_0 were valid for the gender variable x_g, for example, the odds for female and male respondents would not differ from each other in a statistically significant manner, so the estimated odds ratio OR_g would be found from the neighborhood of 1.0. Empirically, we would observe $b_g \approx 0$ (equation 2.2) and report $OR_g \equiv e^{bg} \approx 1$ for the gender variable x_g. Generally speaking, if $b_k < 0$, $e^{bk} < 1$ (the odds diminish as a function of the independent variable), and if $b_k > 0$, $e^{bk} > 1$ (the odds increase as a function of the independent variable).

2.4.2 Data Constraints

It was not possible to incorporate all predictive variables into one single model. The number of observations was simply too low for the task. We had to settle for the second-best alternative: to estimate several distinct models using different predictor variables. We ended up estimating 16 different logistic regression models to analyze all aspects we wanted to cover in the study.

Two critical checkups on the number of observations have been reported for all models. 1. The multi-way crosstabs associated with the models were checked, to see whether or not there were empty cells in the model-specific crosstab (Yes/No, if Yes, the model was not estimated). 2. The share (%) of cell-specific expected frequencies lower than five (< 5) was also checked from each model-specific multi-way crosstab. The minimum expected frequency is reported for each multi-way crosstab. Some of the models were estimated even though the share of low expected frequencies (< 5) was higher than 20% of all cells in the crosstab. This (20%), however, was the demarcation line that was usually obeyed when deciding whether or not to estimate the model.

All two-way interaction effects were tested for all models, in addition to which one three-way interaction effect was tested. The final decision on whether or not to incorporate a given interaction term into the model was made with the help of backward stepwise likelihood ratio test (LR), which compares models by the criteria of –2LL's, not with the help of Wald-tests. Hosmer-Lemeshow goodness-of-fit test was also called for all models. The test gave red light to no model.

For the sake of completeness, we also tested for the effects of other crimes experienced over lifetime on the dependent variable, not just for the effects of violent crimes. The predictive power of other crimes was significantly lower than that of violent crimes. A bit surprisingly, the best candidate for the model as regards the other crimes would have been the left-over crime category "other crime or obstruction" ($\chi^2(1) = 28.441$, $p < .001$; –2LL = 880.378; Nagelkerke $R^2 = .037$; $e^b = 2.918$***; as a stand-alone predictor). The left-over category may contain some serious crimes, then, such as offline or online harassment or stalking, offline or online frauds or aggravated frauds, or robberies or aggravated robberies.

2.5 Findings

Table 2.2 provides a summary of the core findings of the study. The table is based on 16 different models, all presented in full in the appendix of this paper.

The H1–1-hypothesis seems to hold. Female victims of crime are more likely to leave crime unreported for the reason of fear of reprisal (the range of the odds ratio estimates having been ×1.4–×3.8), compared to male victims of crime (×1.0).

No hypotheses were posed as regards the yearly gross income predictor. It appears, though, that economically disadvantaged victims of crime (×1.0) are more likely to non-report out of fear of reprisal than those with higher than average gross incomes. The difference was not statistically significant when comparing the low-income group (≤ 10,000 €) to the lower mid-income group (10,001–25,000 €), but it was statistically significant when comparing them to the upper mid-income (×0.5–×0.3) and high-income (×0.7–×0.35) groups.

Violent crime victimization variables are powerful predictors of fear-based non-reporting, as suggested by hypothesis H1–2. This applies to victims of assaults, victims of sexual offences, and victims of armed threats alike. The odds ratios for these predictors were in the neighborhood of (×3.7–×8.1), when violent crime victims were compared to other victims of crime (×1.0).

We didn't pose any specific hypotheses on the age predictor. It proved to be one of the statistically significant predictors anyway. The probability of young respondents (–29) to non-report for the reason of fear of reprisal (×1.0) was higher than that of the middle-aged cohorts (30–49) (×0.8–×0.3) and that of the old cohorts (≥ 50) (×0.55–×0.3).

The police district variable wasn't statistically significant as a stand-alone predictor ($p = .352$, see model 4 in the appendix). Helsinki (×1.0), Central Finland (×1.05), and Oulu (×0.95) differ from the other districts in that the level of fear-based non-reporting was higher in these three districts than in the others (< ×0.8 for all others); not, however, in a statistically significant manner.

Cell-specific number of observations is heavily restricted in models using the police district predictor, with 11 different categories in the independent variable and only 121 observations in the target cell of the dependent variable. It wasn't reasonable, therefore, to proceed any deeper into the analysis with the police district predictor.

Table 2.2. Non-reporting due to fear of reprisal (= 1), a summary of 16 different models

	SUMMARY OF THE MODELS, THE RANGE OF THE ODDS RATIOS
Intercept	(0.097***) – (0.010***)
Gender	
Female	(1.378) – (3.755***)
Male	1.000
Age	
–29	1.000
30–49	(0.802) – (0.273***)[(a)]
≥ 50	(0.538*) – (0.307***)
Yearly gross income	
≤ 10 000 €	1.000
10 001–25 000 €	(1.096) – (0.728)
25 001–50 000 €	(0.495*) – (0.326***)
> 50 000 €	(0.724) – (0.347**)
Police district	
Helsinki	1.000
Eastern Uusimaa	0.563
Southeastern	0.605
Western Uusimaa	0.797
Häme	0.396
Central Finland	1.053
Ostrobothnia	0.482
Southwestern	0.738
Eastern Finland	0.476
Oulu	0.940
Lapland	0.406
Victim of assault, at least once over lifetime	(4.350***) – (5.627***)[(a)]
Victim of sexual offence, at least once over lifetime	(5.823***) – (8.076***)[(a)]
Victim of armed threat, at least once over lifetime	(3.655***) – (6.537***)
χ^2(df), p	p = .299, p < .01 – p < .001
Nagelkerke R^2	.014 – .203
Empty cells in multi-way crosstabs	[No] for all models
Multi-way crosstabs expected frequencies < 5 (%, min.)	25.00% (min. 1.41) – 0.00% (min. 28.35)
Missing	0–172
N	2,462–2,634

* p < .05; ** p < .01; *** p < .001

(a) The coefficient derives from a model that incorporates an associated interaction term, main effects are reported in the table.

Interaction effect between age and assault victimization turned out to be statistically significant in model 6 (see the appendix), based on the LR-criterion. In an otherwise similar model, but without the interaction term (a model not reported in the appendix), the coefficient (OR) for assault victimization was 5.942 (a slightly stronger effect than the main effect 5.627 in model 6), the coefficient for the middle-aged people 0.454 (a weaker effect than the main effect 0.273 in model 6), the coefficient for the older cohorts 0.310 (a stronger effect than the main effect 0.425 in model 6) and the coefficient for female respondents 3.621 (almost the same as the main effect 3.755 in model 6).

Interaction effect between assault victimization and sexual offence victimization was statistically significant in model 16 (see the appendix), based on the LR-criterion. In this model environment the interaction term in question adjusted the probability of fear-based non-reporting downwards. At the same time, the main effects for both of these two predictors were heightened: in an otherwise similar model, but without the interaction term, the coefficient (OR) for assault victimization was 3.040 (a much weaker effect than the main effect 4.842 in model 16), the coefficient for sexual offence victimization 5.376 (a much weaker effect than the main effect 8.076 in model 16), and the coefficient for armed threat 3.591 (almost the same as the main effect 3.655 in model 16).

A further, interesting finding came up in model 9, where the coefficient of the gender variable turned out to be statistically non-significant, unlike in any of the other models where it was present as a predictor (×1.378 for female respondents, compared to male respondents ×1.0). The model contained sexual offence victimization as a co-predictor. In that model, gender was not a statistically significant predictor, which is interesting, for this would appear to imply, among other things, that a fair proportion of not only the female but also the male victims of sexual offence choose non-reporting out of fear of reprisal.

This, indeed, appears to be the case. Returning to the data one notices that, while the observed, stand-alone odds p/(1–p) for fear-based non-reporting for the male victims of sexual offence were approximately 0.091, for the male victims of crime without sexual offence victimization the corresponding odds were approximately 0.019 ($L\chi^2(1)_{male}$ = 9.175, p < .01, N = 1,301, expected frequency 1.9 < 5 in one cell (25%); observed frequency above 5 in all cells, also in unweighted data).[18]

2.6 Conclusions, Limitations, and Discussion

2.6.1 Conclusions

We are in a position to answer the research questions, in the confines of the data and methods used in the study.

People who leave crimes unreported out of fear of reprisal tend to

1. Be young, rather than middle-aged or old, and female rather than male.
2. Be disadvantaged rather than privileged in terms of yearly gross income, level of education, and labor market status.
3. Live in Helsinki, Central Finland, or Oulu police districts, rather than in the other districts of mainland Finland. In the case of the police district variable, however, unlike in the case of the other predictors tested, the dependency was not statistically significant.
4. Have a personal history of violent crime victimization, either in the form of previous assaults, sexual offences, or armed threats, or in the form of a combination of such incidents. The findings accord with findings from earlier literature, according to which fear-based non-reporting is often associated with violent crimes, especially violent crime against women, and against the most vulnerable groups of people. The findings also accord with theories of human decision-making; the prospect theory, the theory of availability heuristic, the mortality salience theory, theories of decision-making under extreme risk, and strategic decision-making theories (*i.e.*, game theory) in general.

The odds of female victims of crime to non-report due to fear of reprisal ranged between ×1.4–×3.8 in the models of the current study, when compared to the odds of male victims of crime (×1.0). The odds of victims with a history of violent crime victimization to non-report for the reason of fear of reprisal were significantly higher (×3.7–×8.1) than the odds of other victims of crime (×1.0).

On the basis of the current study, and of earlier scholarly literature, it then appears that, the more vulnerable the victim, and the more serious the initial crime, and the more threatening the offender and the situation to the victim,

the more probable it will be that fear of reprisal is cited as a reason for non-reporting.

Inability to protect individual victims in these kinds of situations may be considered as a policy failure. It is a personal loss to the individual victim. Its full implications are more profound, however, and much more comprehensive than this. It violates against the principle of rule-based criminal-legal system itself.

2.6.2 Limitations

The models of the study are constrained by the limited number of observations in the dichotomous variable of interest. This is a factor of uncertainty in itself, incorporated into the confidence intervals—we may have got a sample, by coincidence, where certain regularities are observed (b_k), even though no such regularities exist in the target population (β_k)—but it is also an indirect methodological constraint.

In double-blind experimental studies with perfect random sampling, the study group and the control group should not systematically differ from each other, except for the variable of interest (a medicine, a therapy, an experimental project or program). In quasi- and non-experimental studies, in principle at least, the same kind of situation in modeling may be arrived at by the means of control variables and co-predictors; incorporating all relevant independent variables into the model, and holding them constant while studying the effect of the variable of interest on the dependent variable. Empirical models in which this cannot be done, such as the models of our study, are suspect. As noted in the abstract of the paper, the presence versus the absence of controls and co-predictors in statistical models has the power to alter parameter estimates in quasi- and non-experimental empirical studies.

Further research is needed to cover these limitations. If and in so far as the future rounds of the PBS are implemented the same way as the 2022 round, data sets can be merged to each other and the analyses started herein can be extended in scale and deepened in scope.

We also want to note, as yet another limitation of the study, that there is a dark side to the dark side of the dark figure of crime. As has been severally noted by now, the more serious the initial crime, and the more vulnerable the victim,

and the more threatening the offender and the situation to the victim, the more probable it will be that the incident is non-reported for the reason of fear of reprisal. These are cases characterized by high subjective risks. We can find no reason to believe that a part, at least, of the associated fear wouldn't extend to telling about these kinds of incidents in victimization studies. The victims have been reluctant to tell about the incidents to the police, out of fear of reprisal. It is quite possible that some of them are reluctant to tell about the incidents to anyone.

There is yet another caveat that characterizes the study—a caveat that is relatively common in studies relying on cross-sectional data. Studies relying on cross-sectional data may suffer from the problem that the dependent variable has predated some (or all) of the independent variables in time (see, e.g, Kääriäinen, 2018, pp. 288–289, who refers to his own study as well as to Nathalie Guzy's and Helmut Hirtenlehrer's study from 2015). Respondent's choice of not reporting the most recent incident in a given category of crime, out of fear of reprisal, may have predated violent crime victimization in one or all of the categories we analyzed in the study (assault, sexual offence, armed threat). Background variables, also, may suffer from bias associated with the temporal sequence of the events, in the form of asymmetric measurement error (think of the age category variable, or the yearly gross income variable, both of which have been measured at the time of the survey, not at the time of the incident; in both of these two cases, time tends to shift people away from our high-probability categories; which means that our models may slightly underestimate the effects of these two background variables). The only exception to the rule is the gender variable. For an overwhelming majority of people, sex and gender stay the same over the entire lifetime.

Empirically, in view of the actual timing of the latest victimization incidents, the temporal sequence of the events may, indeed, be a real problem. Most of these incidents have taken place more than four years ago (2017 or before). With the exception of cybercrime—which is a relatively new phenomenon, and a still rapidly growing problem—only 15.2%[19]–41.8%[20] of the most recent incidents of victimization in different categories of crime have taken place during 2018–2022. In cybercrime the share of recent incidents (2018–2022) was by far the highest, 64.6%.

Hence, the (cross-sectional) nature of the data may create problems of interpretation not only with respect to *causal conclusions*, but also with respect to *correlational conclusions*. Note, though, that the problems related to the temporal sequence of the events are probably more severe with respect to negative findings (H_0 seems to hold, on the basis of no correlation) than with respect to positive findings (H_1 seems to hold, on the basis of correlation). Cases that disturb or bias the data prevent us from detecting and establishing regularities that are real, whereas, if we *do* detect a strong correlation between dependent and independent variables, such as the one we came across between violent crime victimization and non-reporting due to fear of reprisal, it is very likely that we have found something real, and should dig deeper (the H1–2 hypothesis). And, as said, the other hypothesis, H1–1, is, for all practical purposes, unaffected by the problems of the temporal sequence of the events.

2.6.3 Discussion

Recurring cross-sectional analyses such as the PBS are capable of exposing secular changes in crime, crime reporting, and the legitimacy of the police. In principle at least, long-term evaluation studies are capable of detecting early signs of changes in the population, or in some of the geographical areas of the country, in these respects—signals that would otherwise go undetected.

Fear-based non-reporting is among the most important target variables in long-term evaluation efforts. Any significant change over time in this indicator deservers careful further attention.

Data

Police Barometer Survey 2022 Data (2022). SAV. Police University College of Finland, Tampere.

Literature

Aumann, R. J. (1959). Acceptable points in general cooperative n-person games. In R. D. Luce & A. W. Tucker (Eds.), *Contributions to the theory of games IV, annals of mathematics studies 40* (pp. 287–324). Princeton University Press, Princeton.

Binmore, K. (2004). Reciprocity and the social contract. *Politics, Philosophy & Economics*, 3(1), 5–35.

Castelbajac, M. de (2014). Brooding Over the Dark Figure of Crime. The Home Office and the Cambridge Institute of Criminology in the Run-up to the British Crime Survey. *British Journal of Criminology*, 54(), 928–945.

Comino, S., Mastrobuoni, G. & Nicoló, A. (2020). Silence of the Innocents: Undocumented Immigrants' Underreporting of Crime and their Victimization. *Journal of Policy Analysis and Management*, 39(4), 1214–1245.

Davis, R.C., Smith, B.E. & Henley, M. (1990). *Victim/Witness Intimidation in the Bronx Courts: How Common is It, and What are Its Consequences?* Victim Services Agency, New York. Available at: https://popcenter.asu.edu/sites/default/files/problems/witness_intimidation/PDFs/Davis_etal_1990.pdf (11/12/2021).

Dawkins, R. (1976). *The Selfish Gene*. Oxford University Press, Oxford.

Dawkins, R. (1982). *The Extended Phenotype*. Oxford University Press, Oxford.

DeLisi, M., Caropreso, D.E., Drury, A.J., Elbert, M.J., Evans, J.L., Heinrichs, T. & Tahja, K.M. (2016). The Dark Figure of Sexual Offending: New Evidence from Federal Sex Offenders. *Journal of Criminal Psychology*, 6(1), 3–15.

Dess, N. (2003). Violence and Its Antidotes. Promises and Pitfalls of Evolutionarily Aware Policy Development. In Bloom, R. & Dess, N. (Eds.), *Evolutionary Psychology and Violence* (pp. 239–268). Praeger, Westport, Connecticut.

Drury, A.J., Elbert, M.J. & DeLisi, M. (2020). The Dark Figure of Sexual Offending: A Replication and Extension. *Behavioral Sciences & the Law*, 38(6), 559–570.

Felson, R.B., Messner, S.F., Hoskin, A.W. & Deane, G. (2002). Reasons for Reporting and Not Reporting Domestic Violence to the Police. *Criminology*, 40(3), 617–647.

Fohring, S. (2014). Putting a Face on the Dark Figure: Describing Victims Who Don't Report Crime. *Temida*, 17(4), 3–18.

Gingerich, D.W. & Oliveros, V. (2018). Police Violence and the Underreporting of Crime. *Economics & Politics*, 30(),78–105.

Jansson, T. (2005). *Saatanan vasikka. Todistajien uhkailu Suomessa*. Poliisiammattikorkeakoulu, Espoo.

Kahneman, D. & Tversky, A. (1979). Prospect Theory: An Analysis of Decision Under Risk. *Econometrica*, 47(2), 263–292.

Kinner, S. (2003). Psychopathy as an Adaptation. Implications for Society and Social Policy. In Bloom, R. & Dess, N. (Eds.), *Evolutionary Psychology and Violence* (pp. 57–81). Praeger, Westport, Connecticut.

Kivisto, A.J. & Mills, S. (2023). Barriers to Police Reporting among Pregnant Ethnoracial Minority Survivors of Intimate Partner Violence. *Journal of Aggression, Maltreatment & Trauma*, 32(6), 821–836.

Kääriäinen, J. (2018). Trust in the Finnish Police and Crime Reporting—Findings in the Context of the Nordic Countries. In Oberwittler, D. & Roché, S. (eds.), *Police–Citizen Relations across the World: Comparing Sources and Contexts of Trust and Legitimacy*. (pp. 284–301). Routledge, London.

Marosy, S.A. (2009). *An Exploration of the Reasons Violent Crimes Are Not Reported to the Police*. West Virginia University, Morgantown, West Virginia. Graduate Theses, Dissertations, and Problem Reports 4497. Available at: https://researchrepository.wvu.edu/etd/4497 (11/10/2023).

Mealey, L. (2003). Combating Rape. Views of an Evolutionary Psychologist. In Bloom, R. & Dess, N. (Eds.), *Evolutionary Psychology and Violence* (pp. 83–113). Praeger, Westport, Connecticut.

Melo, S.N., Boivin, R. & Morselli, C. (2020). Spatial Dark Figures of Rapes: (In) Consistencies Across Police and Hospital. *Journal of Environmental Psychology*, 68(), 101393.

Ministry of the Interior (2023). *Poliisibarometri 2022. Kansalaisten arviot poliisin toiminnasta ja Suomen sisäisen turvallisuuden tilasta*. Sisäministeriö, Helsinki.

Moreira, G.C., Kassouf, A.L. & Justus, M. (2018). An Estimate of the Underreporting of Violent Crimes Against Property Applying Stochastic Frontier Analysis to the State of Minas Gerais, Brazil. *Nova Economia*, 28(3), 779–806.

Morewitz, S.J. (2008). *Death Threats and Violence. New Research and Clinical Perspectives*. Springer, New York.

Pinker, S. (2011). *The Better Angels of Our Nature. A History of Violence and Humanity*. Penguin, London.

Powers, R.A. & Hayes, B.E. (2022). Victim and Third-Party Reporting of Violent Victimization to the Police in Incidents Involving Victims with Disabilities. *Journal of Research in Crime and Delinquency*, DOI: 10.1177/00224278221131493.

Riascos Villegas, A.J., Ñungo, J.S., Gómez Tobón, L., Dulce Rubio, M. & Gómez, F. (2023). Modelling Underreported Spatio-Temporal Crime Events. *PLoS ONE*, 18(7), e0287776. Available at: https://doi.org/10.1371/journal.pone.0287776 (11/2/2023).

Schwartz, N. & Vaughn, L.A. (2002). The Availability Heuristic Revisited: Ease pf Recall and Content of Recall as Distinct Sources of Information- In Gilovich, T., Griffin, D. & Kahneman, D. (Eds.), *Heuristics and Biases*. The Psychology of Intuitive Judgement (pp. 103–119). Cambridge, Cambridge University Press.

Sin, C.H., Comber, N., Mguni, N., Hedges, A. & Cook, C. (2010). Targeted Violence, Harassment and Abuse Against People with Learning Disabilities in Great Britain. *Tizard Learning Disability Review*, 5(1), 17–27.

Singer S.I. (1988). Fear of Reprisal and the Failure of Victims to Report a Personal Crime. *Journal of Quantitative Criminology*, 4(3), 289–302.

Skinnari, J., Jonson, A. & Vesterhav, D. (2019). *Tystnadskulturer. En studie om tystnad mot rättsväsendet*. Brottsförebyggande rådet, Stockholm.

Slocum, L.A. (2018). The Effect of Prior Police Contact on Victimization Reporting: Results from the Police–Public Contact and National Crime Victimization Surveys. *Journal of Quantitative Criminology*, 34(2), 535–589.

Slovic, P., Fischhoff, B. & Lichtenstein, S. (1982). Facts Versus Fears: Understanding Perceived Risk. In Kahneman, D., Slovic, P. & Tversky, A. (Eds.), *Judgement Under Uncertainty: Heuristics and Biases* (pp. 463–492). Cambridge University Press, Cambridge.

Solomon, S., Greenberg, J. & Pyszczynski, T. (2003). Fear of Death and Social Behavior. The Anatomy of Human Destructiveness. In Bloom, R. & Dess, N. (Eds.), *Evolutionary Psychology and Violence* (pp. 129–156). Praeger, Westport, Connecticut.

Tarling, R., Dowds, L. & Budd, T. (2000). *Victim and Witness Intimidation: Findings from the British Crime Survey*. Home Office, London.

Tillewein, H., Shokeen, N., Powers, P., Sánchez, A.J.R., Sandles-Palmer, S. & Desjarlais, K. (2023). Silencing the Rainbow: Prevalence of LGBTQ+ Students Who Do Not Report Sexual Violence. *International Journal of Environmental Research and Public Health*, 20. Available at: https://doi.org/10.3390/ijerph20032020 (10/27/2023).

Timonen, J. (2020). *Asianosaisten ja todistajien uhkailu rikosprosessissa vuosina 2004–2019*. Itä-Suomen yliopisto, Joensuu.

Tversky, A. & Kahneman, D. (1973). Availability: A Heuristic for Judging Frequency and Probability. *Cognitive Psychology*, 5(2), 207–232.

Vuorensyrjä, M. (2019). A Decentralized Cooperative Solution to the Iterated Pacifist's Dilemma Game: Notes in the Margin of Pinker's Theory of Leviathan. *Constitutional Political Economy*, 30(2), 235–260.

Wrangham, R. (2019). *The Goodness Paradox. The Strange Relationship Between Virtue and Violence in Human Evolution*. Vintage, New York.

Appendix

Table A1. Non-reporting due to fear of reprisal (= 1)

	MODEL 1, OR	MODEL 2, OR	MODEL 3, OR	MODEL 4, OR
Intercept	0.045***	0.035***	0.097***	0.065***
Gender				
Female	2.936***	3.183***		
Male	1.000	1.000		
Age	(***)		(**)	
–29	1.000		1.000	
30–49	0.580*		0.802	
≥ 50	0.349***		0.411**	
Yearly gross income		(**)	(**)	
≤ 10 000 €		1.000	1.000	
10 001–25 000 €		0.816	1.096	
25 001–50 000 €		0.411**	0.494*	
> 50 000 €		0.563	0.510	
Police district				(p = .352)
Helsinki				1.000
Eastern Uusimaa				0.563
Southeastern				0.605
Western Uusimaa				0.797
Häme				0.396
Central Finland				1.053
Ostrobothnia				0.482
Southwestern				0.738
Eastern Finland				0.476
Oulu				0.940
Lapland				0.406
χ^2(df), p	48.747(3), p < .001	44.665(4), p < .001	29.839(5), p < .001	11.802(10), p = .299
–2LL	917.256	836.460	858.043	967.586
Nagelkerke R^2	.060	.060	.040	.014
Empty cells in multi-way crosstabs	No	No	No	No
Multi-way crosstabs expected frequencies < 5 (%, min)	0.00 % (min. 17.01)	6.25% (min. 4.47)	12.5% (min. 1.36)	4.54 % (min 3.73)
Missing	17	145	132	0
N	2,617	2,489	2,502	2,634

* p < .05; ** p < .01; *** p < .001

Table A2. Non-reporting due to fear of reprisal (= 1), victims of assault vs. victims of other crimes

	MODEL 5, OR	MODEL 6, OR	MODEL 7, OR
Intercept	0.026***	0.022***	0.045***
Gender			
Female		3.755***	
Male		1.000	
Age		(**)	
–29		1.000	
30–49		0.273***	
≥ 50		0.425**	
Yearly gross income			(**)
≤ 10 000 €			1.000
10 001–25 000 €			0.798
25 001–50 000 €			0.403**
> 50 000 €			0.409**
Victim of assault, at least once over lifetime			
No	1.000	1.000	1.000
Yes	4.680***	5.627***	4.350***
INTERACTION		(*)	
30–49 × Assault victim at least once over lifetime		2.151	
≥ 50 × Assault victim at least once over lifetime		0.509	
χ^2(df), p	63.042(1), p < .001	127.819(6), p < .001	66.839(4), p < .001
–2LL	892.488	814.280	804.949
Nagelkerke R^2	.078	.158	.090
Empty cells in multi-way cross-tabs	No	No	No
Multi-way crosstabs expected frequencies < 5 (%, min.)	0.00% (min. 27.78)	16.67 % (min 1.32)	6.25% (min. 4.02)
Missing	27	45	158
N	2,607	2,589	2,476

* p < .05; ** p < .01; *** p < .001

Table A3. Non-reporting due to fear of reprisal (= 1), victims of sexual offence vs. victims of other crimes

	MODEL 8, OR	MODEL 9, OR	MODEL 10, OR	MODEL 11, OR
Intercept	0.021***	0.018***	0.031***	0.026***
Gender		(p = .197)		
Female		1.378		
Male		1.000		
Age			(*)	
–29			1.000	
30–49			0.742	
≥ 50			0.538*	
Yearly gross income				(*)
≤ 10 000 €				1.000
10 001–25 000 €				1.004
25 001–50 000 €				0.495*
> 50 000 €				0.724
Victim of sexual offence, at least once over lifetime				
No	1.000	1.000	1.000	1.000
Yes	6.773***	5.823***	6.095***	6.678***
χ^2(df), p	96.565(1), p < .001	96.355(2), p < .001	102.598(3), p < .001	99.283(4), p < .001
–2LL	859.504	846.423	853.470	765.355
Nagelkerke R^2	.119	.120	.126	.133
Empty cells in multi-way crosstabs	No	No	No	No
Multi-way crosstabs expected frequencies < 5 (%, min.)	0.00% (min. 28.35)	12.50 % (min 1.94)	0.00% (min. 5.59)	6.25% (min. 2.19)
Missing	42	58	42	172
N	2,592	2,576	2,592	2,462

* p < .05; ** p < .01; *** p < .001

Table A4. Non-reporting due to fear of reprisal (= 1), victims of armed threat vs. victims of other crimes

	MODEL 12, OR	MODEL 13, OR	MODEL 14, OR	MODEL 15, OR
Intercept	0.036***	0.016***	0.075***	0.066***
Gender				
Female		3.503***		
Male		1.000		
Age			(***)	
< 30			1.000	
30–49			0.461***	
≥ 50			0.307***	
Yearly gross income				(***)
≤ 10 000 €				1.000
10 001–25 000 €				0.728
25 001–50 000 €				0.326***
> 50 000 €				0.347**
Victim of armed threat, at least once over lifetime				
No	1.000	1.000	1.000	1.000
Yes	5.415***	6.537***	5.886***	6.284***
χ^2(df), p	47.356(1), p < .001	81.829(2), p < .001	69.931(3), p < .001	67.521(4), p < .001
–2LL	915.892	868.006	893.317	804.117
Nagelkerke R^2	.058	.101	.086	.091
Empty cells in multi-way crosstabs	No	No	No	No
Multi-way crosstabs expected frequencies < 5 (%, min.)	0.00% (min. 9.29)	12.50 % (min. 3.01)	25.00% (min. 2.04)	25.00% (min. 1.41)
Missing	21	38	21	152
N	2,613	2,596	2,613	2,482

* p < .05; ** p < .01; *** p < .001

Table A5. Non-reporting due to fear of reprisal (= 1), victims of assault, sexual offence, and/or armed threat vs. victims of other crimes

	MODEL 16, OR
Intercept	0.010***
Victim of assault, at least once over lifetime	
No	1.000
Yes	4.842***
Victim of sexual offence, at least once over lifetime	
No	1.000
Yes	8.076***
Victim of armed threat, at least once over lifetime	
No	1.000
Yes	3.655***
INTERACTION	(p = .065)
Victim of assault, at least once over lifetime × Victim of sexual offence, at least once over lifetime	0.462
χ^2(df), p	163.561(4), p < .001
–2LL	767.884
Nagelkerke R^2	.203
Empty cells in multi-way crosstabs	No
Multi-way crosstabs expected frequencies < 5 (%, min.)	0.00 % (min. 5.05)
Missing	59
N	2,575

* p < .05; ** p < .01; *** p < .001

3. Protection

A Key to the Code of Witness Intimidation?

Matti Vuorensyrjä

Abstract

Background and the research questions: This is an empirical study of the decisions taken by victims and witnesses who have been intimidated during the criminal procedure. The study analyzes those particular victims of intimidation who have reported the incident of intimidation to the police vis-à-vis those who have decided not to do so. The focus is on two different aspects of confidence in the operation of the police that may be expected to support the reporting decision. It will be assumed that those who have high confidence in the ability of the police to protect people from violence are more likely to report the incident of intimidation, compared to those who have low corresponding confidence, and that the same applies to those who have high confidence in the procedural justice of the police (that the police are fair to people, and hear them, and treat them right), compared to those who have low corresponding confidence.

Data: The data of the study derive from the latest Police Barometer Survey (PBS) conducted in the autumn of 2022. The survey targeted the adult population (15–75) of mainland Finland. The size of the random sample was 8,500, with 47.6% response rate and N = 4,044. There were 208 respondents in the data set who had been intimidated as victims or witnesses during the criminal procedure. While some of them reported the incident of intimidation to the police or to some other authority (76 individuals, or 37%), many others decided against this (132, 63%; weighted data).

Methods: The hypotheses of the study were tested with the help of Wilcoxon rank-sum tests for independent samples. The tests were run within different demographic groups of the data.

Findings: The first hypothesis was confirmed for the group of female victims of intimidation. Women who had reported the incident of intimidation had a significantly higher confidence in the ability of the police to protect people from violence than women who had remained silent. The second hypothesis was confirmed for no demographic group in within-group Wilcoxon rank-sum tests.

Limitations: The data are cross-sectional, which is a major constraint as regards the conclusions that can be drawn from the study. The causal chain of events may be exactly the opposite to the one we hypothesize. Confidence in the police may not have been the cause of the decision to report the incident of intimidation. Confidence in the police may have been caused by the process. *I.e.*, the ideas of those who have taken part in criminal procedure as victims or witnesses, who have been intimidated by the offender, who have reported the incident of intimidation to the police, and who have been protected / being treated right by the police, may have changed in the process. However, having carefully considered the alternative interpretative scenarios, we conclude that our main conclusions still hold. Female victims of intimidation, in particular, seem to benefit from the feeling of being protected.

Keywords: victim intimidation, witness intimidation, crime reporting, perceived protection, perceived procedural justice, witness protection

3.1 Background and the Research Questions

3.1.1 The Hypotheses of the Study

"Threatening a person to be heard in the administration of justice," as the crime is known in the Criminal Code of Finland (39/1889 / 766/2015, Chapter 15, Section 9), undermines the law, the rule of law, and thus the very foundations of constitutional liberal democracy. Victim and witness intimidation is surprisingly widespread. Out of 906 respondents in the latest Police Barometer Survey (PBS) who had participated in criminal procedure as plaintiffs (victims) or witnesses at some point during their life, 208 (approx. 23%) told that they had been intimidated in the process by the offender, by the offender's representative, or by some other party. Of the intimidated victims and witnesses, 132 (approx. 63%) told about the incident of intimidation to no authority, neither to the police nor to any other authority (PBS 2022, weighted data).

There are several distinct factors that may counter this tendency, *i.e.*, factors that could encourage people to report. In this study we will analyze two distinct factors that may be expected to support people's decision to cooperate with the police, even in high-risk decision-making situations such as decisions made under victim and witness intimidation.

Tyler (1990/2006) identified several different factors that could be expected to contribute to people's obeying the law, and to their cooperation with law enforcement authorities. Reference was made to perceived procedural justice of the police and of the courts, in particular, but also to perceived distributive justice and perceived effectiveness of these two core institutions of the criminal-legal system. In Tyler's original study, procedural justice proved to be the most important factor under analysis, in terms of its contribution to law-abiding behavior and cooperation with the police and the courts.

Since then, based on the work of David Beetham (1991), Tyler's work has been extended to other factors and dimensions of trust and legitimacy (*e.g.*, Jackson *et al.*, 2011a; 2011b; 2012; 2013; Hough *et al.*, 2013; Hough, 2021). The theory of procedural justice has also encountered theoretical and empirical criticism, but even in these studies the core components of the theory have been accepted and adopted to empirical modeling (Bottoms & Tankebe, 2012; 2021; Tankebe *et al.*, 2016; Ewanation *et al.*, 2019). The procedural justice theory has thus

survived for several decades' time by now, and goes on contributing to the analyses of confidence in, and legitimacy of, the police and the courts (*e.g.*, Tyler (ed.), 2007; Oberwittler & Roché (eds.), 2018). The study conducted by Skinnari *et al.* (2019, pp. 53–55) suggests that trust in the fairness of the police may be a factor also in the context of collective intimidation, or what the authors call the "culture of silence."

A high-risk decision-making situation may be slightly different, however, from the general crime reporting situation, and from other settings where citizens cooperate with the police. In victimization studies that have focused on non-reporting due to fear of reprisal (non-reporting the initial crime, potential intimidation and fear *ex-ante* the criminal procedure), it has been observed that many of the commonly known general patterns of crime reporting are reversed. In crime reporting in general it is usually the case that the more serious the crime, the more likely it is that it will be reported to the police. Triviality of the initial crime is the most important reason for not to report. There seems to be another kind of regularity at work, however, in the serious end of the scale of crime: the more serious the crime, the more likely it is that it falls into the category of crimes that go unreported for the reason of fear of reprisal (Singer, 1988; Felson *et al.*, 2002; see also Chapter 2 in this book).

These are high-risk situations, whether we speak of intimidation and fear *ex-ante* the criminal procedure or intimidation and fear *ex-nunc* and *ex-post* the criminal procedure. Violence is often involved in the initial crimes, and victims of intimidation tend to be vulnerable. Both of these two regularities are robust in earlier empirical research (see sections 3.2.1–3.2.3). Physical intactness of the victims of intimidation, and even their life, may be at stake. Death threats have been observed to be common in many different contexts, including the context of domestic violence (Morewitz, 2008, p. 6, p. 19). Death threats are rarely carried out, but they can be expected to be effective, nonetheless. According to the so-called "mortality salience" research paradigm, reminding people of their mortality, even briefly, in passing, has profound inferential (rational) and behavioral effects on them (Solomon *et al.*, 2003, pp. 142–146, and *passim*).

It may well be that, in these kinds of decision-making situations, contrary to Tyler's (1990/2006) findings on the more ordinary cases of law-abiding behavior and cooperation with the police, perceived protection has a role to play, along with perceived procedural justice. Protection has, indeed, been a factor not only in earlier scholarly research on victim and witness intimidation (Akerlof & Yellen, 1994; Maynard, 1994; Fyfe & McKay, 2000; Dickie, 2004/2010; Fyfe, 2005;

O'Flaherty & Sethi, 2010; Skinnari *et al.*, 2019; *etc.*), but also in policy guides and manuals written for the benefit of criminal-legal authorities (Healey, 1995; Finn & Healey, 1996; Dedel, 2006; Hadley, 2006; Allum & Fyfe, 2008; Balsamo, 2016; *etc.*).

It is possible to test these two hypotheses with the help of the PBS data. Specifically, it will be assumed, that

H1–1: The Protection Hypothesis	Victims of intimidation who have high confidence in the ability of the police to protect people from violence are more likely to report the incident of intimidation to the police, compared to those who have low corresponding confidence.
H1–2: The Procedural Justice Hypothesis	Victims of intimidation who have high confidence in the procedural justice of the police (that the police are fair to people, and hear them, and treat them right) are more likely to report the incident of intimidation to the police, compared to those who have low corresponding confidence.

Within-group Wilcoxon rank-sum tests are used to analyze whether or not the hypotheses hold.

3.1.2 On the Key Concepts of the Study

A few conceptual issues remain to be cleared up, before going into the analysis. We will think of the offender of the initial crime also as the offender of the crime of victim or witness intimidation. They will be referred to simply as "the offender" throughout the paper. This is a convention only, the purpose of which is to simplify the language of the article. In reality, and also in measurement (in the PBS), the threat may come not only from the offender, but also from her or his representative, or from some other party.

We do not always differentiate between the concepts of victim and witness of the initial crime either, in the text. They are both potential victims of intimidation in the decision-making situation under analysis. "Witness" and "victim" play the same role, therefore, in what we call the game of *witness intimidation*.

Gavin de Becker (1997, p. 128) differentiates between the concepts of "threat" and "intimidation." Threat, according to de Becker, is an unconditional statement of intention of harming another person. Intimidation is a conditional statement

of intention of harming another person. It does not aim at harming the other person as such, without qualifications, but at something else. It is characterized by conditional terms, such as "if," "unless," or "or else." In this sense, the object of the current study is witness intimidation, not threat posed by the offender on the witness.

As to the definition of witness intimidation itself, we settle for Chen's (2009, p. 837) encyclopedic definition:

> "Victim or witness intimidation is the practice of threatening, harming, or otherwise instilling fear in a victim of, or witness to, a crime, in an effort to prevent him or her from reporting a crime or testifying in court."

3.2 Literature Review

Whether or not witness intimidation is reported to the police, is a rarely addressed issue in intimidation studies. The evidence is scarce and sporadic.

Our approach to the review of earlier literature has been comprehensive in nature, rather than strictly selective and narrow. The following search terms were used in the review.

- [Witness intimidation]
- [Witness tampering]
- [Victim intimidation]
- [Perjury]
- [Obstruction of justice OR Obstructing justice]

The first and still the most valuable wave of research on witness intimidation emerged in the late 1990s and the early 2000s. This was probably due to the rapid rise of violent crime from the 1960s to the 1990s that took place in the US. Intimidation was an issue for the reason that aggravated forms of violent crime connected to gangs, to drug trade, and to organized crime were among the most rapidly growing categories of crime, and that a part of witness intimidation has been found to be connected to these categories of crime (another major part is connected to ordinary high-volume crimes, such

as assaults and intimate partner and ex-partner violence). Akerlof and Yellen's (1994) important theoretical analysis, for example, and the valuable empirical analyses by Davis *et al.* (1990), Maynard (1994), Healey (1995), Finn and Healey (1996), and Tarling *et al.* (2000)—and in Finland by Jansson (2005) and Hadley (2006)—all date from this period of time.

There are two parts to the review of earlier literature. We will first take a look at *statistical evidence* on the key characteristics of witness intimidation, and on witnesses' decisions to report (not to report) these incidents. We will then briefly discuss the rest of the scholarly analyses, reviewing few, selected, methodologically *idiographic studies*. Such studies are plenty in the field. Reference can be made to important historical studies and studies based on interviews such as Healey (1995), Fyfe and McKay (2000), Dickie (2004/2010), Fyfe (2005), Hadley (2006), Davies (2007), Browning (2014), O'Malley (2014a,b; 2015a,b), Skinnari *et al.* (2019), and many others. Theoretical analyses, even though important, were not included in the review (see especially Akerlof & Yellen, 1994; Bowles *et al.*, 2009; O'Flaherty & Sethi, 2010). Judicial studies concerned with the phenomenon of obstruction of justice were excluded from the review at the outset.

3.2.1 Statistical Evidence

Davis *et al.* (1990) analyzed the prevalence of intimidation among victims and witnesses in the Bronx Criminal Court. This was the third Victim Services Agency (VSA III) study in the series, the earlier ones having been conducted in 1980 (VSA I) and 1983 (VSA II). The data consisted of two rounds of interviews of plaintiffs and witnesses, the original data collection round in February 1988, and the follow-up round in September the same year. The original data collection round was conducted by the means of in-person interviews in the complaint room of the Bronx Criminal Court (260 interviewed victims or witnesses), whereas the follow-up round of interviews was conducted over the telephone (136 out of the original 260 individuals, the rest of them could not be reached by the researchers).

The share of intimidated respondents in the Davis *et al.* (1990) study was 36%. Majority (90%) of threats came in the form of verbal promise to harm the victim or her or his property (physical harm, death threats, harm to property). The following examples were given by Davis *et al.* (1990, p. 10).

- "He told me I was going to pay for having him arrested and told the police officer he'd better be on duty tomorrow night because he's going to kill me when he gets out;"
- "He said he'll smash me into the window;"
- "He threatened to set fire to my house;"
- "He broke the phone from the wall and said he'd kill me if I called [the police];"
- "He made [me] write a letter by knife-point stating [I] would not press charges."

The share of those who told about intimidation to criminal justice officials was surprisingly high in Davis and colleagues' (1990) study, 80%.

Davis *et al.* (1990) also reported some of the results from the earlier rounds of VSA studies. In VSA I (1980), 26% of 295 interviewed victims and witnesses in the Brooklyn Criminal Court had been intimidated (in-person interviews), whereas in VSA II (1983), also in the Brooklyn Criminal Court, 15% of 109 interviewed persons had experienced intimidation (interviews over the telephone). In VSA II, 63% of intimidated interviewees had reported the incident of intimidation to criminal justice officials.

Interestingly, according to Davis *et al.* (1990, p. 3; VSA III),

> "The primary response of the system was to warn the defendants not to harass the witness. No defendants were arrested for the intimidation."

Another interesting finding from the Davis *et al.*'s (1990, p. 17) study was that, while only one single intimidated victim told that intimidation made her or him to drop charges, in statistical analysis the probability of intimidated victims to drop charges was almost three times as high as that of victims who had not experienced intimidation. In line with this finding, 33% of the intimidated victims self-reported that they were "very much afraid," and 29% that they were "somewhat afraid," due to intimidation.

Davis and others (1990, p. 19) found, furthermore, that intimidation was connected to two other factors they measured. Intimidation was likelier than average in cases where the initial crime had been harassment or assault (51%

of whom experienced intimidation). It was likelier than average also in cases where the victim had close ties with the offender (intimate relationship, or blood ties) (54% of whom experienced intimidation).

In a comprehensive study prepared for the Home Office in the UK, Maynard (1994) first considered the existing data sources and evidence on witness intimidation, and strategies for preventing it, and concluded that they were inadequate (p. 8): it was not possible to determine the prevalence or the key characteristics of witness intimidation with the help of 1. criminal records of the police, 2. the data from the Crown Prosecution Service survey (CPS), or with the help of 3. the recent sweeps of the British Crime Survey (BCS, 1982, 1984, 1988, 1992). Maynard referred to the new BCS 1994 data, which had explicit questions on intimidation. These data were unavailable, however, at the time. Maynard's project thus conducted their own survey and complemented it with the help of in-depth interviews.

A house-to-house survey was conducted in five high crime housing estates, selected from the Home Office's "Safer Cities" areas. These were not the worst, but, rather, "typical" high crime estates. They were located in Bristol, Coventry, Salford, Hartlepool and Middlesborough. Data collection in Salford had to be discontinued due to interviewers' safety concerns. The final data consisted of 1,077 completed interviews out of 1,766 households addressed, with 61% response rate (Maynard, 1994, p. 8).

The number of crimes reported to the police by the victims of crime was 397, and 172 by the witnesses. Approximately 12.6% of the victims and 9.3% of the witnesses had experienced intimidation after reporting. In the aggregate, approximately 11.6% of the reported incidents of crime led to intimidation (Maynard, 1994, p. 13, see the "all crimes" row in Maynard's Table 6, wherefrom we computed $100(66/569) \approx 11.6\%$). Intimidation was common particularly in cases of vandalism (23.5% of the reported initial crimes), burglary (14.1%), and wounding assaults (13.3%; in the case of wounding assaults the numbers were exceedingly low, however, 2/15, and thus highly uncertain).

In an early review of the literature, Elliott (1998) noticed that very little is empirically known about witness intimidation. Reference could be made to criminal statistics, to the Crown Prosecution Service survey, and to the British Crime Survey. The BCS data had been used by Dowds and Budd in 1997, a study

that was among the primary points of reference to Elliott. The Dowds and Budd study, however, even though one of the most important sources of information in the field, is unpublished, and known to us only by way of Elliott's review.

Dowds and Budd's analysis was based on the British Crime Survey data from 1994. According to Elliott (1998, pp. 114–116), their findings showed that:

1. Victim intimidation is much more common than witness intimidation.
2. Intimidation is more likely if the initial crime has been reported to the police, but it is not non-existent even if the initial crime has gone unreported, *i.e.*, "(...) failure to report did not guarantee immunity" (*ibidem*, p. 114); 20% of those who reported the initial crime to the police were intimidated, whereas the corresponding proportion for the non-reporters was 14%.
3. Reporting the incident of intimidation to the police covaries with reporting the initial crime. The intimidation reporting rate was 3% for those who had not reported the initial crime to the police, whereas for those who had reported the initial crime it was 19%.
4. The likelihood of female victims being intimidated (19%) is higher than that of male victims (14%).
5. The likelihood of being intimidated is higher in cases where the initial crime has been sexual offence, vandalism, or assault, compared to other crime categories.

Tarling *et al.* (2000) used the BCS data from 1998 to analyze the prevalence and the key characteristics of victim and witness intimidation. The analysis was complemented with the help of the 1994 BCS data. According to Tarling *et al.*, approximately 18% of the *victims* who had reported the initial crime to the police had subsequently experienced intimidation (the 1998 data). In the 1994 data the rate was 20%, correspondingly (*ibidem*, p. 10). Approximately 13% of the *witnesses* who had reported the initial crime to the police were subsequently intimidated (the 1998 data, *ibidem*, p. 16).

The most common initial crimes associated with subsequent intimidation were violent crimes (including offences with sexual motive), vandalism, and burglary. Overall, women appear to suffer more from intimidation than men, and the bulk of cases where the victim of intimidation is female appear to be connected to intimate partner or ex-partner violence (Tarling *et al.*, 2000, pp. 6–9, p. 20).

Jansson (2005, pp. 24–25) analyzed all cases of "threatening a person to be heard in the administration of justice" from the Finnish police records, his data covering years 2001–2003. The focus was on witness intimidation, excluding cases of victim intimidation. Having screened the data, he arrived at exactly one hundred cases where the target of intimidation had been the witness (or witnesses). By far the most common initial crimes in cases of intimidation were assaults and aggravated assaults (48 cases, corresponding to 48%). There were also property crimes (14%), driving under influence (10%), and other crimes. In 29 cases violence had been used in the act of intimidation itself. *I.e.*, the act of intimidation consisted not only of threat of violence, but also of the actual use of violence.

Interestingly, in Jansson's (2005) study, no connections to organized crime were found in the analysis. Jansson noted that this doesn't mean that there is no such intimidation. It merely means that cases connected to organized crime rarely end up in police records—they are not reported to the police in the first place, due to fear (*ibidem*, p. 64).

Meernik and King (2020) used probit analysis and a sample of 300 persons from the International Criminal Tribunal for the Former Yugoslavia's (ICTY's) Victims and Witnesses Services (VWS) database in a survey to people who had testified on war crimes before international tribunal. They wanted to know whether or not the offenders who intimidate the witnesses choose their targets on the basis of the witnesses' personal vulnerability. This, indeed, seemed to be the case. Those who ended up being intimidated (74/300, or approximately 25% of their sample) were more likely than the other respondents to

- be members of an ethnic minority;
- have family members, or be themselves, characterized by ethnic inter-marriage(s) background(s);
- have physical or psychological problems with health;
- have been physically assaulted during war;
- try to cope with their problems alone, rather than seek help from other people, and;
- have a pessimistic view of their own prospects in life.

Meernik and King's (2020) findings originate in multi-predictor models, yet several caveats remain in interpreting their results. The findings concerning the last factor, for example, may be a simple *ex-post* feed-back effect of being intimidated.

In any case, Meernik and King's (2020) findings back up the proposition according to which the offenders are consciously seeking and targeting the most vulnerable witnesses. According to the authors, the most vulnerable witnesses were not targeted only for direct purposes (preventing them from giving evidence), but also for indirect purposes (trying to intimidate other witnesses from giving evidence, by harassing and silencing the most vulnerable among them).

In Finland, Timonen (2020) has recently conducted a comprehensive judicial and empirical analysis of the cases of "threatening a person to be heard in the administration of justice." His data derived from the police records and covered years 2004–2019. There were 2,278 reported crimes in this category in the database, of which Timonen selected 1,314 cases for the final analysis. Several different criteria were used in restricting the data. The cases had to be connected to criminal procedure, for example, and they had to be such that they were passed on to the prosecutor. Excluded were cases in which no crime had taken place according to the police, cases that were still open, and cases that were related to, *e.g.*, restraining orders (for a detailed description of data restrictions, see Timonen, 2020, pp. 61–62).

Timonen (2020) analyzed intimidation that had targeted victims and witnesses, but also, unlike any other study, intimidation that had targeted the offenders. In 822/1,314 cases of intimidation (62.5%) the target of intimidation had been the victim, in 406/1,314 cases (30.9%) the witness, and in 86/1,314 cases (6.5%) the offender. Threats committed before the victim or witness gave her or his statement were, by and large, as common as threats committed after the statement, but use of violence as a part of the act of intimidation was much more common after the statement than before the statement. For the *victims* the ratio was 1.9 (violence was used as a part of the act of intimidation in 80/42 cases after/before making the statement), whereas for the *witnesses* the ratio was 2.5 (53/21 cases), and for the offenders 5.0 (25/5 cases) (Timonen, 2020, pp. 65–68).

Timonen (2020) also studied the nature of threats posed to the targets of intimidation. By far the most common were threats that involved violence (whether with or without the actual use of violence, whether with or without the support of a weapon, such as knife, fire-arm, or some other weapon). This was observed in 998 cases (82.6% of the 1208 cases classified by Timonen, 2020, p. 70, in Tables 7–9 of his report). There were also economic threats (blackmailing, threats of damage to property, *etc.*) in 66 cases (5.5%), and threats where the perpetrator referred to future reprisal by a gang or mafia in 32 cases (2.6%). Other kinds of threats were observed in 112 cases (9.3%).

The initial crime was most often a violent crime (assault or aggravated assault; note that domestic violence, homicide, and sexual offences all had their own separate categories in Timonen's computation and statistics). Approximately 47% of the initial crimes were assaults or aggravated assaults. Relatively common initial crimes were also property crimes (13%), sexual offences (7%), traffic offences (7%), threats and insults (6%), domestic violence (6%), and robberies and blackmailing (5%). There were also narcotics crimes (4%), homicides (3%), and other crimes (2%) (Timonen, 2020, pp. 79–83, p. 95).

3.2.2 Selected Idiographic Studies

There are several methodologically idiographic studies on victim and witness intimidation that are of importance in our trying understand the phenomenon (Healey, 1995; Fyfe & McKay, 2000; Dickie, 2004/2010; Fyfe, 2005; Hadley, 2006; Davies, 2007; Browning, 2014; O'Malley, 2014a,b; 2015a,b; Skinnari *et al.*, 2019, *etc.*). Two of these studies are taken under detailed scrutiny here.

In the summer of 2004, Hadley (2006) interviewed 14 front-line police officers from the Helsinki metropolitan area, ranging from the senior constable level to the chief inspector level. Intimidation turned out to be a relevant problem in the area, according to police officers' assessments, especially in the domain of violent crime. The front-line police officers' estimates were that, approximately 10–20% of potential witnesses are worried about the consequences of testifying in cases where the offender and the witness are previously unknown to each other, and, hence, reluctant to give evidence (Hadley, 2006, p. 19, see also p. 14). These findings were obtained only as the in-depth interviews progressed. They went against the initial ideas of the police officers themselves (in the beginning of the interviews), according to which intimidation is a rare phenomenon, not an emerging "sub-culture" in the area (*ibidem*, p. 16).

Hadley (2006, p. 64) concluded that,

> "It would seem that the issues surrounding intimidation and protection cover a broad spectrum from organized international drugs crime, prostitution and human trafficking of immigrants to internal criminal gangs, to forms of local neighborhood deterioration and domestic violence."

Hadley's (2006) study was empirical in nature, but it was also an analysis of the operational and judicial policy measures with which the police and the prosecutors could be able to support and protect victims and witnesses. As such, it continues to be valuable reading for police officers, prosecutors, and policy-makers (see Hadley, 2006, pp. 64–69; on effective protective measures and policies see also Maynard, 1994; Healey, 1995; Finn & Healey, 1996; Elliott, 1998; Dedel, 2006; Allum & Fyfe, 2008; Balsamo, 2016; Skinnari *et al.*, 2019).

On government's request, Skinnari *et al.* (2019) from Brottsförebyggande rådet (Brå) conducted a study of non-reporting in Sweden. The target of the study was general non-reporting, rather than non-reporting due to *fear of reprisal*, or non-reporting connected to *witness intimidation*, yet the study is important from our viewpoint in that the perspective to non-reporting in the study was the "culture of silence" (tystnadskultur) in Sweden.

The mechanisms of non-reporting due to culture of silence were studied in five different contexts, or focus areas. These were 1. violence in the so-called "honor context" (hederskontext); 2. domestic and intimate partner violence; 3. criminal networks; 4. deprived areas suffering from crime, and; 5. crime against and within organizations.

The study was based on

- victim and witness interviews, combined with interviews of public authorities and personnel from third sector organizations (137 interviews);
- a survey to prosecutors conducted in 2018 (661/935 prosecutors, or 71%, responded at least once over the follow-up period) and;
- register-based data on cases of obstructing justice (övergrepp i rättssak), combined with a more detailed review of the cases that led to conviction, where randomly selected 167/345 judges responsible for these cases were contacted.

Eleven (11) different mechanisms of non-reporting due to culture of silence were detected in the analysis. Among these were

- lack of trust in the police (bristande förtroende för polisen), and;
- fear of threats and violence (rädsla för hot och våld) (Skinnari, 2019, p. 45, pp. 53–55, pp. 58–60).

Regarding the mechanism of lack of trust in the police, reference was made to victims' encounters with the police where something had gone wrong, such as humiliating treatment by the police; to the (often undisclosed, unclear) ways in which the police make use of information they are provided with; to experiences of discrimination against ethnic minorities, and; to the principles reflecting general distrust in the police, "in my circles people simply do not talk to the police" (Skinnari, 2019, pp. 53–55).

Fear of violence and violent threats was the most common of the mechanisms underlying the culture of silence, according to Skinnari *et al.* (2019, p. 58). It was detected in all five focus areas of the study.

Especially difficult were situations in which people compared their fear of violence to the ability of the police to protect them, and found that perceived protection was no match to perceived threat.

> "Certain [victims of crime] weigh fear against confidence in the ability of the police to guarantee their safety, and against the ability of the police to clear the crime. If the expectation is that the crime report will lead somewhere, some of the victims and witnesses are of the opinion that they would probably be willing to take a somewhat higher risk, with regard to their own safety. It is particularly problematic, therefore, that many victims of crime express both high level of fear and low level of confidence in the ability of the police to protect them."(Skinnari *et al.*, 2019, p. 58, [translation by M.V.]).[21]

One of the interviewees noted that,

> "I trust in the police, but they cannot protect me, I do know that. [The perpetrator] has family, friends in the neighborhood, dangerous people. The criminals are better able to protect him than the authorities are capable of

protecting me. They will all be against me if I quarrel with him, if I talk to the police (...)" (Skinnari *et al.*, 2019, p. 86, [translation by M.V.]).[22]

Analyzing another data source—the cases of obstruction of justice that led to conviction—Skinnari *et al.* (2019) found that 90% of the convicted perpetrators were male (10% female). The most common initial crimes in cases where the convicted person was male, were assaults (21% assaults, plus 21% assaults in combination with some other crime) and robberies (16%). Other crimes mentioned were illegal threats (5%); sexual offences (4%); narcotics crime (2%); and damage to property / vandalism (2%) (Skinnari *et al.*, 2019, p. 36). Assault was the most common initial crime also in cases where the perpetrator was female (*ibidem*, p. 37).

3.2.3 Intermediate Summary

We conclude this section with a short summary of the review. Findings from earlier research suggest that,

- Estimates of the prevalence of witness intimidation vary. A certain range can be discerned, however, in the estimates. They vary between 12% (13%, 15%, 18%, 20%, 20%, 23%, 25%, 26%, 27%, and 28%) and 36% (Davis *et al.*, 1990, VSA I, VSA II, VSA III; Maynard, 1994; the Dowds and Budd 1997 study as reported by Elliott, 1998; Tarling *et al.*, 2000; Meernik & King, 2020; Ministry of the Interior, 2023).
- Estimates of the rate of reporting witness intimidation are few, and vary even more, between 19% (37%* and 63%) and 80% (Davis *et al.*, 1990, VSA II, VSA III; the Dowds and Budd 1997 study as reported by Elliott, 1998; the PBS data in Ministry of the Interior (2023), measuring *incidents reported to the police or to other authorities).
- Threats in cases of intimidation come usually in the form of verbal threats of the use of violence (promises to harm the victim—physical threat, death threat), not in the form that involves the actual use of violence, but they may be expected to be effective, nonetheless (Davis *et al.*, 1990; Healey, 1995; Dedel, 2006; Skinnari *et al.*, 2019; see also Morewitz, 2008; Solomon *et al.*, 2003).
- The initial crime in cases of witness intimidation is usually a violent crime, most often assault or aggravated assault, but it may also be robbery, burglary, vandalism, or sexual offence (Davis *et al.*, 1990; Maynard,

1994; the Dowds and Budd 1997 study as reported by Elliott, 1998; Tarling *et al.*, 2000; Jansson, 2005; Skinnari *et al.*, 2019; Timonen, 2020).

- The context of the initial crime is often a high-volume crime incident, such as intimate partner or ex-partner violence, but it may also be gang violence, violence connected to drugs and to organized crime, or so-called "honor violence." This has been reflected in the established concepts of intimidation categories, common in the literature: *case-specific intimidation*, roughly corresponding to *individual*, person-to-person *intimidation*, and *community wide-intimidation* and *cultural intimidation*, corresponding to *collective* forms of *intimidation* (Tarling *et al.*, 2000; see also, *e.g.*, Hadley, 2006, and; Skinnari *et al.*, 2019).
- Female victims and witnesses tend to suffer more from intimidation than male victims and witnesses (the Dowds and Budd 1997 study as reported by Elliott, 1998; Tarling *et al.*, 2000).
- The offenders who intimidate those who testify on war crimes before international tribunal seem to target the most vulnerable among the witnesses; witnesses who are members of an ethnic minority, for example, witnesses who have physical or psychological problems with health, witnesses who try to cope on their own, seeking no help from other people, and so on (Meernik & King, 2020).

3.3 Data

The PBS data have rather a comprehensive description of the different phases of criminal procedure. Based on self-reporting by the respondents of the study, it is possible to differentiate between those who have participated in criminal procedure as victims or witnesses at some point in the course of their life (group C) and those who have not taken part in criminal procedure in such a role (group $\neg\mathrm{C}$). It is also possible to differentiate between victims and witnesses who have been intimidated in the course of the process (T) and victims and witnesses who have not been intimidated ($\neg\mathrm{T}$). Among those who have experienced intimidation, it is possible to differentiate between those who have reported the incident of intimidation to the police or to some other authority (R) and those who have remained silent about it ($\neg\mathrm{R}$).

The questions in the PBS are not time-bound in the sense that they would denote the respondent's experience from, say, the last 12 months. They are general, as regards the experiences of the individual respondent over time.

"Have you been a witness or plaintiff (that is, a victim) in a criminal procedure?"

[IF YES] ⇒ "Have you experienced threats or pressure by someone involved in a criminal procedure?"

[IF YES] ⇒ "If you have experienced threats or pressure by someone involved in a criminal procedure, did you report the latest such case to the police or other authorities?"

In other words, the survey takes account of the number of people who have participated in criminal procedure as victims or witnesses at least once over lifetime, and then tracks their experiences of intimidation, if any, in these cases. The resulting estimates are cumulative in terms of the number of individual respondents with these experiences, rather than a time-bound point estimates.

There were N = 208 respondents in the PBS 2022 data set,

- who had participated in criminal procedure as victims or witnesses, *and*;
- who had been intimidated in the process by the offender, by the offender's representative, or by some other party, *and*;
- who had either reported the (latest such) incident of intimidation to the police or to some other authority (76 individuals, 36.5%) or had not done so (132, 63.5%; weighted data).

In what follows, victims and witnesses who have reported the incident of intimidation to the police or to some other authority (the R group) are compared to victims and witnesses who have decided against this (the $\neg\mathrm{R}$ group). Table 3.1 gives the descriptive statistics of the study, zooming in from the total population of respondents (column [4]) to respondents who answered that they have participated in a criminal procedure as victims or witnesses [3], further to victims and witnesses who have been intimidated during the criminal procedure [2], and to victims and witnesses who have reported the incident of intimidation to the police or to some other authority [1].[23]

Table 3.1. Descriptive statistics

	[1]	[2]	[3]	[4]
Gender				
Female	48.6%	43.4%	42.4%	49.8%
Male	51.4%	56.6%	57.6%	50.2%
N (missing)	75 (1)	206 (2)	901 (4)	4,011 (33)
Age				
–29	10.5%	19.5%	15.4%	21.7%
30–49	39.1%	42.6%	43.5%	33.9%
50–64	34.9%	24.6%	27.0%	25.5%
65–	15.6%	13.3%	14.0%	19.0%
N (missing)	76 (0)	208 (0)	906 (0)	4,044 (0)
Labor market status				
Employed	56.8%	57.7%	64.2%	58.4%
Unemployed	4.4%	9.0%	6.6%	4.6%
Not in the labor force	38.8%	33.2%	29.2%	37.0%
N (missing)	74 (2)	199 (9)	879 (26)	3,950 (94)
Education				
Primary	17.1%	19.6%	14.8%	20.4%
Secondary	53.3%	54.8%	51.4%	45.1%
Tertiary	29.5%	25.6%	33.7%	34.5%
N (missing)	75 (1)	198 (10)	878 (27)	3,903 (141)
Yearly gross income				
≤ 10 000 €	7.7%	17.4%	11.2%	14.8%
10 001–25 000 €	38.8%	27.3%	24.7%	27.2%
25 001–50 000 €	34.0%	37.3%	40.9%	39.9%
> 50 000 €	19.5%	18.0%	23.2%	18.1%
N (missing)	71 (5)	192 (17)	864 (42)	3,775 (269)

[1] Victims and witnesses who have reported the incident of intimidation.
[2] Victims and witnesses who have been intimidated during the criminal procedure.
[3] Respondents who have taken part in a criminal procedure as victims or witnesses.
[4] All respondents.

The variables that will be used to measure perceived protection and perceived procedural justice have been originally developed and validated in the European-wide Euro-Justis project conducted during 2008–2011 by Jackson, Bradford, Hough and colleagues (Jackson *et al.*, 2011a; 2011b; 2012; 2013; Hough & Sato, 2011; Hough *et al.*, 2013; Hough, 2021). The PBS project has applied for, and received, the permission to use these variables in the project.

The following question from the police effectiveness inventory of the PBS will be used as a single-indicator proxy for perceived protection:

> v1: "How successful do you think the police are at preventing crimes in Finland where violence is used or threatened? Select your answer on a scale where 0 is "Extremely unsuccessful" and 10 is "Extremely successful" " [0–10].

The PBS data have also an inventory of perceived procedural justice of the police. Perceived procedural justice of the police is an indication of the more comprehensive idea according to which things are going right in the criminal-legal system. This, for its part, serves as a reason for the individual her- or himself to adhere to the system. In other words, perceived procedural justice of the courts and of the police can be expected to be among the key factors that support law-abiding behavior and, thereby, reporting ("obeying the law," in the vocabulary of Tyler, 1990/2006; see also Jackson *et al.*, 2011a; 2011b; 2012; 2013; Hough *et al.*, 2013; Hough, 2021).

The following two measures of perceived procedural justice are used in the study as an ordinary sum variable (listwise exclusion, Cronbach's alfa supporting the use of the sum variable, with $\alpha = 0.791$):

> v2: "Based on what you have heard or your own experience, how often would you say the police generally treat people in Finland with respect?" [1 = Not at all often; 2 = Not very often; 3 = Often; 4 = Very often].
>
> v3: "About how often would you say that the police make fair and impartial decisions in the cases they deal with?" [1 = Not at all often; 2 = Not very often; 3 = Often; 4 = Very often].
>
> The sum variable range is [2–8].

3.4 Methods

3.4.1 The Research Strategy

The low number of observations in the target subset of the PBS data, especially when further sliced into even smaller subsets by the demographic variables, prohibits methodologically sophisticated lines of analysis (multi-predictor models; matched pairs comparison studies comparing quasi-experimental study group to corresponding control group, *etc.*). Instead, we will be using the Wilcoxon rank-sum tests for independent samples in the analysis, splitting each test to within-group analyses with the help of the demographic variables that are available in the PBS data set. Methodologically, furthermore, the bivariate analyses assume a causally inverted form, compared to our hypotheses.[24]

Hence, in the case of the gender background variable, for example, and perceived protection (the v1-variable), we will run the bivariate Wilcoxon rank-sum tests analyzing perceived protection across the R and ¬R groups, separately within the female (F) and male (M) groups of respondents.

$$(v1(R, \neg R)|F),$$

$$(v1(R, \neg R)|M). \qquad (3.1)$$

We will run the tests separately within all available demographic groups, and for both variables of interest (v1; v2 + v3). The series of analyses will thus include, for example, the analysis of perceived procedural justice (v2 + v3) across the R and ¬R groups within the groups of respondents characterized by primary (P), secondary (S), and tertiary (T) level of education.

$$\big((v2 + v3)(R, \neg R)\big|P\big),$$

$$\big((v2 + v3)(R, \neg R)\big|S\big),$$

$$\big((v2 + v3)(R, \neg R)\big|T\big). \qquad (3.2)$$

We will also run similar tests for the other two phases of criminal procedure, comparing the groups of respondents who have (have not) been intimidated (T, ¬T), and the groups of respondents who have (have not) taken part in criminal

procedure (C, ¬C). The focus will be on the differences between the R and ¬R groups, but we will also report findings from other analyses, and briefly discuss them—the findings, for example, from

$$(v1(T, \neg T)|F),$$

$$(v1(T, \neg T)|M). \tag{3.3}$$

3.4.2 The Wilcoxon Rank-Sum Test

The Wilcoxon rank-sum test for independent samples, the results of which correspond to the results of the Mann-Whitney U-test, is a non-parametric method of analysis that has been originally developed to analyze data that cannot be analyzed with the help of ratio-scale methods such as the t-test or the analysis of variance. The distribution of the dependent variable may deviate from normality, for example, or the variable has not been measured at ratio-scale to begin with, prohibiting the use of ratio-scale methods. Both of these restrictions apply to the three variables of interest of this study (v1–v3). The distributions of the variables are skewed, and they are all essentially ordinal.

Fortunately, if the scale of the dependent variable is properly ordinal (if it allows for rank-ordering), the Wilcoxon rank-sum test can be used to study whether or not there are statistically significant differences in the variable between two independent groups. The *z*-score for the Wilcoxon rank-sum test can be computed with the help of the lower of the two rank sums of the groups, W_s (equation 3.4), the rank sum mean, $\overline{W_S}$ (3.5), and the related standard error, $SE_{\overline{WS}}$ (3.6).

$$z = \frac{W_S - \overline{W_S}}{SE_{\overline{W_S}}}. \tag{3.4}$$

$$\bar{W}_S = \frac{n_1(n_1+n_2+1)}{2}. \tag{3.5}$$

$$SE_{\overline{W_S}} = \sqrt{\frac{n_1 n_2(n_1+n_2+1)}{12}}. \tag{3.6}$$

n_1 (n_2) here denotes the number of observations in group 1 (group 2). Standard confidence intervals and habitual interpretation apply to the *z*-score of equation (3.4). η in the analysis is computed as

$$\eta = \frac{z}{\sqrt{N}}, \qquad (3.7)$$

and measures the effect size of the dependency (on the Wilcoxon rank-sum test and other comparable non-parametric tests, and on equations 3.4–3.7, see Field *et al.*, 2012, pp. 655–667; or Field, 2015, pp. 217–228).

3.5 Findings

The findings of the study are presented in Tables 3.2 and 3.3. These tables have two different functions in the paper.

The first function is descriptive. The two tables give the arithmetic means of the variables of interest (v1, v2 + v3) in their respective scales (0–10; 2–8) for all respondents of the survey [column 4], for respondents who have taken part in a criminal procedure as victims or witnesses [3], for victims and witnesses who have been intimidated during the criminal procedure [2], and for victims and witnesses who have reported the incident of intimidation to the police or to some other authority [1].

The second function is analytical. The two tables are used to present the findings from the Wilcoxon rank-sum tests, where we compare perceived protection (v1; Table 3.2) and perceived procedural justice (v2 + v3; Table 3.3) across the two groups of primary interest of the study (R, $\neg\mathrm{R}$). Table 3.4 and Figure 3.1 provide detailed description of the statistically significant positive finding of the study. And, as established, we report also the results from tests where perceived protection and perceived procedural justice have been compared across (C, $\neg\mathrm{C}$) and (T, $\neg\mathrm{T}$).

First, let's take a look at the row named "TOTAL" in Tables 3.2 and 3.3. This is the demographically undifferentiated perspective to the analysis. In the demographically undifferentiated tests, both variables of interest, perceived protection and perceived procedural justice, differed in a statistically significant manner between T and $\neg\mathrm{T}$ groups, *i.e.*, between those who had been intimidated during the criminal procedure and those who had not experienced intimidation (T, $\neg\mathrm{T}$). Perceived protection differed in a statistically significant manner also between C and $\neg\mathrm{C}$ groups, *i.e.*, along the lines of groups of respondents who had (C), or had not ($\neg\mathrm{C}$), participated in criminal procedure as victims or witnesses. The dependencies were negative throughout; in both

kinds of group comparison tests, and for both variables of interest (v1, in Table 3.2; and (v2 + v3), in Table 3.3).

Let's first consider the (T, ¬T) group comparison results. Here, the respondents who had low confidence in the ability of the police to protect people from violence (low confidence in procedural justice of the police) had been intimidated in criminal procedure significantly more often than those who had high corresponding confidence. Note that we do not know the direction of the effect associated with the observed statistically significant dependency. We could equally well express the dependency in another—causally opposite—manner, saying that the respondents who had been intimidated in the process had lower confidence in the ability of the police to protect people from violence (lower confidence in procedural justice of the police) than those who had not experienced intimidation.

Proceeding from undifferentiated tests to within-group tests, still looking at the same phase of criminal procedure (T, ¬T), it will be noticed that the negative dependencies found from the row "TOTAL" seem to be particularly strong within the group of male respondents and younger than average cohorts of respondents, but the dependencies characterize several other groups of respondents, too. They were detected within the group of employed respondents (perceived protection, perceived procedural justice), the group of respondents not in the labor force (perceived procedural justice), and the group having primary education (perceived procedural justice). They were also detected within the group of high-income respondents (> 50,000 €) (perceived protection), and the respondents with tertiary education (perceived protection).

It thus appears that there is a connection between the confidence variables, on the one hand, and being intimidated in the course of the criminal procedure, on the other hand. In fact, for the T group, the steps downward are notably steep in the scale of the confidence variables, whether we speak of perceived procedural justice or perceived protection.

To repeat, we have no way of knowing the direction of the causality (if any). Nevertheless, as the effect in question seems to be rather comprehensive here (T, ¬T), affecting a wide range of different demographic groups, the way we interpret the findings is that, somehow, being intimidated in the course of criminal procedure, damages confidence in the police of the intimidated persons.

Table 3.2. Confidence statistics: perceived protection, descriptive variable means (scale 0–10), and within-group Wilcoxon rank-sum test results for the different phases of criminal procedure[(a)]

Means for groups [1] – [4] Wilcoxon rank-sum tests for groups (X, ¬X)	[1] (R, ¬R)	[2] (T, ¬T)	[3] (C, ¬C)	[4]
Gender				
Female	6.77*	6.15ns	6.28*	6.56
Male	5.85ns	5.89**	6.49**	6.74
N (missing)	63 (1)	171 (2)	794 (4)	3,416 (628)
Age				
–29	5.40ns	5.46*	6.33ns	6.42
30–49	5.91ns	5.94ns	6.12***	6.46
50–64	6.65ns	6.08ns	6.56ns	6.77
65–	6.80ns	6.67ns	6.97ns	7.01
N (missing)	64 (0)	173 (0)	798 (0)	3,442 (602)
Labor market status				
Employed	6.27ns	5.79**	6.34**	6.62
Unemployed	NR	5.58ns	5.93ns	6.28
Not in the labor force	6.62ns	6.48ns	6.70ns	6.71
N (missing)	62 (2)	167 (6)	778 (20)	3,376 (668)
Education				
Primary	5.81ns	6.05ns	6.88ns	6.94
Secondary	6.22ns	5.92ns	6.20***	6.54
Tertiary	6.39ns	5.85**	6.48ns	6.57
N (missing)	63 (1)	166 (7)	778 (20)	3,338 (706)
Yearly gross income				
≤ 10 000 €	NR	6.94ns	6.53ns	6.40
10 001–25 000 €	5.79ns	5.70ns	6.33*	6.70
25 001–50 000 €	6.47ns	6.01ns	6.42*	6.63
> 50 000 €	5.96ns	5.43**	6.50ns	6.71
N (missing)	59 (5)	161 (12)	764 (34)	3,242 (802)
TOTAL	**6.26ns**	**5.99***	**6.40****	**6.64**
N (missing)	64 (12)	173 (35)	798 (108)	3,442 (602)

[1] Victims and witnesses who have reported the incident of intimidation.
[2] Victims and witnesses who have been intimidated during the criminal procedure.
[3] Respondents who have taken part in a criminal procedure as victims or witnesses.
[4] All respondents.
NR Not reported, the number of observations in one or more cells is lower than five (< 5).
(a) Statistical significances computed with the help of Wilcoxon rank-sum tests comparing, *e.g.*, in column [1], the group of witnesses who reported the incident of intimidation to the police to the group who didn't, within the group of, *e.g.*, female respondents, the group of high-income respondents (> 50 000 €), *etc.*
* p < .05; ** p < 0.01; *** p < .001

Table 3.3. Confidence statistics: perceived procedural justice, descriptive sum variable means (scale 2–8), and within-group Wilcoxon rank-sum test results for the different phases of criminal procedure[(a)]

Means for groups [1] – [4] Wilcoxon rank-sum tests for groups (X, ¬X)	[1] (R, ¬R)	[2] (T, ¬T)	[3] (C, ¬C)	[4]
Gender				
Female	6.52^{ns}	6.42^{ns}	6.72^{ns}	6.73
Male	6.18^{ns}	6.22**	6.59*	6.72
N (missing)	55 (21)	146 (62)	723 (183)	3,067 (977)
Age				
–29	5.35^{ns}	5.71**	6.55^{ns}	6.68
30–49	6.19^{ns}	6.27*	6.60**	6.77
50–64	6.64^{ns}	6.56^{ns}	6.71^{ns}	6.81
65–	6.51^{ns}	6.50^{ns}	6.64^{ns}	6.55
N (missing)	56 (20)	149 (59)	726 (180)	3,087 (957)
Labor market status				
Employed	6.66^{ns}	6.52*	6.79^{ns}	6.84
Unemployed	NR	5.54^{ns}	5.86*	6.37
Not in the labor force	5.93^{ns}	6.02*	6.49^{ns}	6.57
N (missing)	53 (23)	144 (64)	710 (196)	3,035 (1,009)
Education				
Primary	5.68^{ns}	5.67*	6.25^{ns}	6.45
Secondary	6.28^{ns}	6.29^{ns}	6.57*	6.71
Tertiary	6.66^{ns}	6.68^{ns}	6.91^{ns}	6.90
N (missing)	55 (21)	144 (64)	706 (200)	3,001 (1,043)
Yearly gross income				
≤ 10 000 €	NR	5.90^{ns}	6.26^{ns}	6.41
10 001–25 000 €	5.79^{ns}	6.13^{ns}	6.46^{ns}	6.63
25 001–50 000 €	6.54^{ns}	6.39^{ns}	6.66^{ns}	6.76
> 50 000 €	6.50^{ns}	6.60^{ns}	6.96^{ns}	7.01
N (missing)	52 (24)	140 (68)	702 (204)	2,933 (1,111)
TOTAL	**6.30^{ns}**	**6.28*****	**6.63^{ns}**	**6.72**
N (missing)	56 (20)	149 (59)	726 (180)	3,087 (957)

[1] Victims and witnesses who have reported the incident of intimidation.
[2] Victims and witnesses who have been intimidated during the criminal procedure.
[3] Respondents who have taken part in a criminal procedure as victims or witnesses.
[4] All respondents.
NR Not reported, the number of observations in one or more cells is lower than five (< 5).
(a) Statistical significances computed with the help of Wilcoxon rank-sum tests comparing, *e.g.*, in column [1], the group of witnesses who reported the incident of intimidation to the police to the group who didn't, within the group of, *e.g.*, female respondents, the group of high-income respondents (> 50 000 €), *etc.*
* p < .05; ** p < 0.01; *** p < .001

This is important, for what we are looking at here, in this particular phase of criminal procedure (T, ¬T), is a level of confidence that has already been diminished earlier on in the procedure. Statistically significant negative dependencies were observed between the C and ¬C groups in 7/16 (4/16) within-group tests, as regards perceived protection (perceived procedural justice). Hence, in the aggregate, due to cumulative effects, confidence is at a much lower level among the people in T group, compared to the level of confidence among the people in ¬C group. The analysis of the relationships between the two confidence estimates and the reporting decisions (R, ¬R) is all the more interesting, from this particular angle.

Only one (1/28) of the within-group Wilcoxon rank-sum tests was statistically significant in the analyses where those who reported the incident of intimidation to the police (R) were compared to those who did not (¬R). This was also the only statistically significant dependency, across all our analyses, where the dependency was positive. It was observed between (R, ¬R) and perceived protection within the group of female respondents. Corresponding to the difference in the arithmetic means, the mean rank for the non-reporters (the ¬R group) was lower than the mean rank for reporters (the R group), and the difference between the two groups was statistically significant ($W = 1346.5$; z-score = 2.038; $p < .05$; $\eta = 0.237$; see Table 3.2; for detailed statistical results, see also Table 3.4 and Figure 3.1).

Interpretation is even trickier here than in the above, where the focus was on (T, ¬T). It may be that

1. Those who had high confidence in the ability of the police to protect people from violence were readier to report the incident of intimidation to the police than those who had low corresponding confidence, within the female group of respondents.
2. Reporting the incident of intimidation to the police had a positive effect on perceived protection, within the female group of respondents.
3. Both of the above propositions are true. *I.e.*, it may be that female respondents who had high confidence in the ability of the police to protect people from violence were readier to report the incident of intimidation to the police than the others, and that the act and the consequences of reporting further strengthened their confidence. Both of these factors would then avail to explain the difference ob-

served in perceived protection between the R and ¬R groups, within the female group of respondents.

There is yet another, interesting possibility. The two causal impacts referred to, in the above, may be opposite to each other, the stronger overcoming the weaker. Here, however, only one of the two pairs of reverse causal impacts is plausible.

4. It may be that those who had high confidence in the ability of the police to protect people from violence were readier to report the incident of intimidation to the police than those who had low corresponding confidence, within the female group of respondents; and that this causal impact, being the stronger one, overcame the other causal impact, which was negative: reporting the incident of intimidation to the police had a negative effect on perceived protection, within the female group of respondents.
5. It is highly unlikely, though, that reporting the incident of intimidation to the police had a positive effect on perceived protection, within the female group of respondents, and that this causal impact, being the stronger one, overcame the other causal impact, which was negative: those who had high confidence in the ability of the police to protect people from violence were less ready to report the incident of intimidation to the police than those who had low corresponding confidence, within the female group of respondents.

In any of the plausible interpretative scenarios (s1–s4), either successful protection of female victims of intimidation by the police (protection) (s2, s3), or a high level of perceived protection among female victims of intimidation (perceived protection) (s1, s3, s4), or both (s3), is/are important, policy-wise.

As a conclusion to the analytical part of the study it may be noted that we cross-tested in this study the core independent variables that the authors of Chapter 2 employed in their study: violent crimes (assaults, armed threats, sexual offences) experienced by the respondent over lifetime. We introduced these variables into the current study, and used them as predictors of (R, ¬R), employing single-predictor binary logistic regression analyses in the enterprise. Surprisingly, perhaps, none of the three variables predicted (R, ¬R) in a statistically significant manner.

Table 3.4. Perceived protection, findings from the statistically significant positive Wilcoxon rank-sum test

Variables and the Wilcoxon rank-sum test components Perceived protection	The group Female respondents
Mean rank, ¬R group / R group	33.22 / 43.44
W; z; p	1346.5; 2.038; 0.042
η	0.237
N (No, Yes)	74 (43, 31)

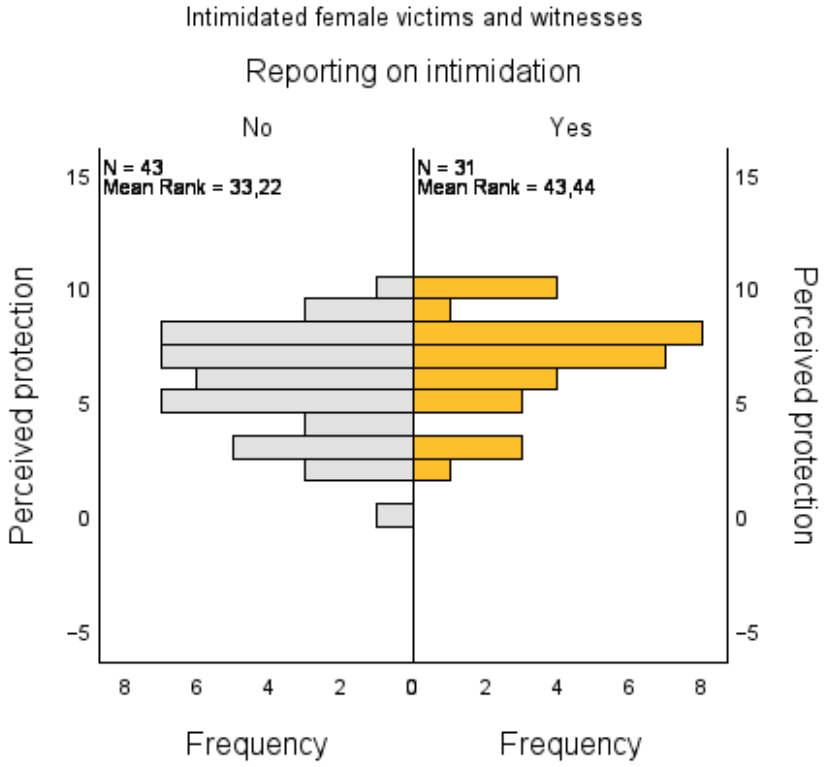

Figure 3.1. Perceived protection among intimidated female victims and witnesses: those who reported the incident of intimidation (Yes), and those who did not (No)

3.6 Conclusions, Limitations, and Discussion

3.6.1 Conclusions

In the current study we compared those particular victims of witness intimidation who had reported the incident of intimidation to the police (the R group) to those who had decided not to do so (the $\neg\mathrm{R}$ group). Following extant theories of law-abiding behavior and cooperation with law enforcement authorities by Tyler (1990/2006), Beetham (1991), Jackson *et al.* (2011a; 2011b; 2013), Bottoms and Tankebe (2012; 2021), Hough (2021), and others, it was assumed that perceived protection and perceived procedural justice are important in high-risk decision-making situations, just as they are in ordinary police-citizen contacts and cooperation. Specifically, it was assumed that 1. those who have high confidence in the ability of the police to protect people from violence are more likely to report the incident of intimidation to the police or to some other authority, compared to those who have low corresponding confidence, and that; 2. those who have high confidence in the police in the sense that they believe that the police will do the right thing—are fair to people, and hear them, and treat them right—are also readier to report, compared to those with low corresponding confidence.

The hypotheses were tested with the help of within-group Wilcoxon rank-sum tests for independent samples, using the PBS 2022 cross-section data. The first hypothesis was confirmed for the group of female victims of intimidation. The dependency between (R, $\neg\mathrm{R}$) and perceived protection was positive and statistically significant. The second hypothesis was confirmed for no demographic group in within-group Wilcoxon rank-sum tests.

Overall, it appears that perceived procedural justice is almost exactly the same for reporters (the R group) and non-reporters (the $\neg\mathrm{R}$ group), with some variation across the different demographic groups of respondents. Perceived protection, however, although statistically significant only for the group of female victims of intimidation, was higher among the reporters than among the non-reporters in 10 out of 14 demographic groups tested, and lower in 4/14 groups. The four groups within which perceived protection was lower among the reporters than non-reporters were the group of male victims of intimidation, the relatively young victims of intimidation (–29, 30–49), and the victims of intimidation with primary education.

3.6.2 Limitations

The number of respondents in the key target group of the study was low. This affected not only the confidence intervals and the inference, accordingly, but also the methods that could be used in the study. Within-group Wilcoxon rank-sum tests were used in the analyses, instead of multi-predictor methods.

Another major constraint associated with the data of the study was that they were cross-sectional, and not longitudinal, in character. Without the help of the time dimension, it will be difficult to say whether a statistically significant dependency between x and y is caused by $x \Rightarrow y$, or $y \Rightarrow x$, or by some third variable $z \Rightarrow \{x, y\}$. In the current study this was a real problem. In the case of the statistically positive dependency detected in the study (female victims of intimidation reporting / not reporting; perceived protection), both (opposite) causal interpretations were plausible. Nevertheless, having analyzed the potential interpretative scenarios around the case, we were in a position to conclude that, either successful protection of female victims of intimidation by the police (protection), or a high level of perceived protection among female victims of witness intimidation (perceived protection), or both, is/are likely to be important, policy-wise.

Finally, note that the study at hand suffers from the same caveat that was mentioned in the *Limitations* section of Chapter 2. From the point of view of causality considerations, the temporal sequence of the events in the current study may be wrong. Perceived protection and perceived procedural justice have been measured at the time of the survey, and, therefore, very likely, *ex-post* the reporting decision. Hence, *only the correlational conclusions* of the study, *at best*, are valid and reliable.

However, as noted in Chapter 2, the problems related to the temporal sequence of the events are probably more severe with respect to negative findings (H_0 accepted on the basis of no correlation detected) than with respect to positive findings (H_1 accepted on the basis of correlation detected). Cases that disturb or bias the data do just that. They disturb and bias the data, and thus our conclusions, and prevent us from detecting and establishing regularities that are real. A consistent, statistically significant finding, however, is another matter. It is much less likely to result from factors that disturb or bias the data. Statistically significant positive findings, therefore, deserve our careful attention, and further research.

Speaking of statistically significant positive findings, the gender variable is the only variable in the fear and intimidation studies of this book (Chapter 2, Chapter 3), all content and background variables considered, that is unaffected by the problems related to the temporal sequence of the events. For an overwhelming majority of people, sex and gender stay the same over the entire lifetime. And it was among the female respondents that we came across the most important findings of these two studies (see also endnote 18).

3.6.3 Discussion

Dedel (2006) began her problem-oriented guide on witness intimidation by listing the initial crimes that are known to be associated with intimidation. The list in itself tells a lot about the phenomenon. She mentioned

> "(...) domestic violence; acquaintance rape; stalking; exploitation of trafficked women; gun violence among youthful offenders; gang-related crime; bullying in schools; drug trafficking, [and]; organized crime." (*ibidem*, p. 1).

While some of the crime types refer to high-volume crime categories, and to low-risk intimidation situations (the probability of the offender carrying out the threat is not necessarily high, not at least in cases such as death threats), some of them refer to collective crime categories, and to high-risk intimidation situations (the probability of the offender carrying out the threat may be high, even in cases such as death threats). Dedel (2006, p. 6) notices that,

> "Most intimidation is neither violent nor life-threatening, but even a perception that reprisals are likely can be distressing and disruptive to witnesses. Experiencing intimidation reduces the likelihood that citizens will engage with the criminal justice system, both in the instant offense and in the future. Although the public tends to overestimate the actual risk of harm, its fear and the resulting reluctance to cooperate can have serious collateral consequences for the criminal justice system."

Perceived threat, we think, is a factor that is seriously underappreciated in analyses of victim and witness intimidation. The threat experience is not the same as the actual threat. Subjective probability does not correspond to the objective, frequency-based probability. In reality, the subjective criteria, not the objective criteria, are decisive. People play the games they think they play.

Healey (1995) and Dedel (2006) have both emphasized that, even though the actual risk is often low to non-existent, intimidation may be effective. Morewitz (2008, p. 6, p. 19) has noted that death threats are common in the context of domestic violence. In the so-called "mortality salience" research paradigm it has been demonstrated that reminding a person of her or his mortality has profound inferential (rational) and behavioral consequences. While some of these consequences are conscious, some are unconscious (Solomon *et al.*, 2003, pp. 142–146, and *passim*).

Perceived protection—as the subjective experience of the victim of intimidation—may thus be one of the factors that make the difference between those who do, and those who do not, report the incident of intimidation to the police. Intimidated female witnesses, in particular, seem to benefit from the experience of being protected. Similar positive tendencies could be detected in 10 out of 14 demographic group tested, but, except for the female group of respondents, they weren't statistically significant.

In Finland, perceived procedural justice of the police is at a high level on average among the citizens. There are differences in perceived procedural justice, however, between different demographic groups, and the variable takes a deep dive among those who have been intimidated in criminal procedure (T), compared to those who have not experienced intimidation ($\neg$T). The level of perceived procedural justice was lower among intimidated victims and witnesses than among those who have experienced no intimidation. This was the case for all 16 demographic groups that were tested in within-group analyses. The difference was statistically significant in six out of sixteen (6/16) within-group tests.

Interpretation, again, is an issue here. Is it that intimidation in the course of criminal procedure somehow damages perceived procedural justice of the victims of intimidation, or is it that those who doubt about the procedural justice of the police to begin with, are the ones who end up being intimidated? The mechanism, furthermore, may be different for different demographic groups.

The effect was detected within the young and the male groups of victims of intimidation, but it was detectable in many other groups, too: within the relatively large group of employed respondents, for example, and within the

group of those who are not in the labor force (students, retirees, *etc.*). Our interpretation is that, somehow, being intimidated in the course of criminal procedure shatters people's confidence in the police, and probably also in the criminal-legal system in general. Then again, perceived protection appears to be capable of covering some of these losses.

One final thing remains to be noted. The target variables in the PBS, and hence also in the current study, were perceived protection and perceived procedural justice. Policy-wise, however, the primary duty of the criminal-legal system cannot be depicted as trying to convince the victim of intimidation of getting the protection they need, so that they will have the courage to report the initial crime and the incident of intimidation to the police and the court (perceived protection). The primary duty of the criminal-legal system is to provide that protection (protection).

Data

Police Barometer Survey 2022 Data (2022). SAV. Police University College of Finland, Tampere.

Literature

Akerlof, G. & Yellen, J.L. (1994). Gang Behavior, Law Enforcement and Community Values. In Aron, H.J., Mann, T.E. & Taylor, T. (eds.), *Values and Public Policy* (pp. 173–209). The Brookings Institution, Washington, D.C.

Allum. F & Fyfe, N. (2008). Developments in State Witness Protection Programmes: The Italian Experience in an International Comparative Perspective. *Policing*, 2(1), 92–102.

Balsamo, A. (2016). The Delocalisation of Mafia Organisations and the Construction of a European Law Against Organised Crime. *Global Crime*, 17(1), 99–121.

Beetham, D. (1991). *The Legitimation of Power*. MacMillan, Houndmills, Basingstoke, Hampshire.

Bottoms, A. & Tankebe, J. (2012). Beyond Procedural Justice: A Dialogic Approach to Legitimacy in Criminal Justice. *The Journal of Criminal Law & Criminology*, 102(1), 119–170.

Bottoms, A. & Tankebe, J. (2021). Procedural Justice, Legitimacy, and Social Contexts. In Meyerson, D., MacKenzie, C. & MacDermott, T. (eds.), *Procedural Justice and Relational Theory. Empirical, Philosophical, and Legal Perspectives* (pp. 85–110). Routledge, London.

Bowles, R., Garcia Reyes, M. & Garoupa, N. (2009). Crime Reporting Decisions and the Costs of Crime. *European Journal of Criminal Policy and Research*, 15(4), 365–377.

Browning, J. (2014). Snitches Get Stiches: Witness Intimidation in the Age of Facebook and Twitter. *Pace Law Review*, 35(1), 192–214.

Chen, E.Y. (2009). Victim and Witness Intimidation. In Taylor Greene, H. & Gabbidon, S.L. (eds.), *Encyclopedia of Race and Crime* (pp. 837–839). Sage Publications, Thousand Oaks, CA.

Davies, A. (2007). Glasgow's 'Reign of Terror': Street Gangs, Racketeering and Intimidation in the 1920s and 1930s. *Contemporary British History*, 21(4), 405–427.

Davis, R.C., Smith, B.E. & Henley, M. (1990). *Victim/Witness Intimidation in the Bronx Courts: How Common is It, and What are Its Consequences?* Victim Services Agency, New York. Available at: https://popcenter.asu.edu/sites/default/files/problems/witness_intimidation/PDFs/Davis_etal_1990.pdf (11/12/2021).

de Becker, G. (1997). *The Gift of Fear. Survival Signals That Protect Us from Violence*. Dell Publishing, Random House, New York.

Dedel, K. (2006). *Witness Intimidation*. Problem-Oriented Guides for Police. Problem-Specific Guides Series No. 42. U.S. Department of Justice, Washington, D.C. Available at: https://popcenter.asu.edu/sites/default/files/problems/pdfs/witness_intimidation.pdf (2/13/2024).

Dickie, J. (2004/2010). *Cosa Nostra—A History of the Sicilian Mafia*. The Finnish translation from 2010. Gummerus, Helsinki.

Elliott, R. (1998). *Vulnerable and Intimidated Witnesses: A Review of Literature*. Home Office Research and Statistics Directorate, London. Available at: https://popcenter.asu.edu/sites/default/files/problems/witness_intimidation/PDFs/Elliot_1998.pdf (2/13/2024).

Ewanation, L., Bennell, C., Blaskovits, B. & Baldwin, S. (2019). Validating the Police Legitimacy Scale with a Canadian Sample. *Canadian Journal of Criminology and Criminal Justice*, 61(4), 1-21.

Felson, R.B., Messner, S.F., Hoskin, A.W. & Deane, G. (2002). Reasons for Reporting and Not Reporting Domestic Violence to the Police. *Criminology*, 40(3), 617–647.

Field, A. (2015). *Discovering Statistics Using IBM SPSS Statistics*. Sage, Los Angeles.

Field, A., Miles, J. & Field, Z. (2012). *Discovering Statistics Using R*. Sage, Los Angeles.

Finn, P. & Healey, K.M. (1996). *Preventing Gang- and Drug-related Witness intimidation*. U.S. Department of Justice, Washington, DC.

Fyfe, N.R. (2005). Space, Time and the Vulnerable Witness: Exploring the Tensions Between Policy and Personal Perspectives on Witness Intimidation. *Population, Space and Place*, 11(6), 513–523.

Fyfe, N.R. & McKay, H. (2000). Desperately Seeking Safety. Witnesses' Experiences of Intimidation, Protection and Relocation. *British Journal of Criminology*, 40(4), 675–691.

Hadley, J. (2006). *Witness Intimidation and Protection Practices: A Front-Line View from Helsinki, Consideration of Finnish Police Law, and Review of Research in the UK*. Police University College, Espoo.

Healey, K.M. (1995). *Victim and Witness Intimidation: New Developments and Emerging Responses*. National Institute of Justice. US Department of Justice, Washington, D.C.

Hough, M. & Sato, M. (2011). *Trust in Justice: Why It Is Important for Criminal Policy, and How It Can Be Measured? Final Report of the Euro-Justis Project*. European Institute for Crime Prevention and Control, affiliated with the United Nations (HEUNI), Helsinki. Available at: https://eprints.bbk. ac.uk/id/eprint/4507/1/4507.pdf (12/14/2021.)

Hough, M. (2021). *Good Policing. Trust, Legitimacy and Authority*. Policy Press, Bristol.

Hough, M., Jackson, J. & Bradford, B. (2013). Trust in Justice and the Legitimacy of Legal Authorities: Topline Findings from a European Comparative Study. In Body-Gendrot, S, Hough, M., Levy, R., Kerezsi, K. & Snacken, S. (eds.), *European Handbook of Criminology* (pp. 243–265). Routledge, London.

Jackson, J., Bradford, B., Hough, M., Kuha, J., Stares, S., Widdop, S., Fitzgerald, R., Yordanova, M. & Galev, T. (2011a). Developing European Indicators of Trust in Justice. *European Journal of Criminology*, 8(4), 267–285.

Jackson, J., Bradford, B., Hough, M., Myhill, A., Quinton, P. & Tyler, T.R. (2012). Why Do People Comply with the Law? Legitimacy and the Influence of Legal Institutions. *British Journal of Criminology*, 52(6), 1051–1071.

Jackson, J., Hough, M., Bradford, M., Pooler, T., Hohl, K. & Kuha, J. (2011b). *Trust in Justice: Topline Results from Round 5*. Available at: http:// eprints.lse.ac.uk/41680/ (12/10/2021).

Jackson, J., Kuha, J., Hough, M., Hohl, K. & Gerber, M. (2013). *Trust and Legitimacy Across Europe: A FIDUCIA report on Comparative Public Attitudes towards Legal Authority*. Available at: http://eprints.lse.ac.uk/50650/ (12/10/2021).

Jansson, T. (2005). *Saatanan vasikka. Todistajien uhkailu Suomessa*. Poliisiammattikorkeakoulu, Espoo.

Maynard, W. (1994). *Witness Intimidation. Strategies for Prevention*. Home Office, London.

Meernik, J. & King, K. (2020). The Security Consequences of Bearing Witness. *Journal of Conflict Resolution*, 64(5) 933–957.

Ministry of the Interior (2023). *Poliisibarometri 2022. Kansalaisten arviot poliisin toiminnasta ja Suomen sisäisen turvallisuuden tilasta*. Ministry of the Interior, Helsinki.

Morewitz, S.J. (2008). *Death Threats and Violence. New Research and Clinical Perspectives*. Springer, New York.

Oberwittler, D. & Roché, S. (eds.) (2018). *Police-Citizen Relations Across the World. Comparing Sources and Contexts of Trust and Legitimacy*. Routledge, London.

O'Flaherty, B. & Sethi, R. (2010). Witness Intimidation. *The Journal of Legal Studies*, 39(2), 399–432.

O'Malley, M. (2014a). Witness Intimidation in the Digital Age. Part I. *The Prosecutor*, 48(July, August, September), 14–21.

O'Malley, M. (2014b). Witness Intimidation in the Digital Age: The Basics. Part II. *The Prosecutor*, 48(October, November, December), 12–19.

O'Malley, M. (2015a). Witness Intimidation in the Digital Age: Intimidation in Pretrial Proceedings—the Philadelphia Experience. Part III. *The Prosecutor*, 49(January, February, March), 16–23.

O'Malley, M. (2015b). Witness Intimidation in the Digital Age: Discovering Witness Intimidation. Part IV. *The Prosecutor*, 49(April, May, June), 16–23.

Singer S.I. (1988). Fear of Reprisal and the Failure of Victims to Report a Personal Crime. *Journal of Quantitative Criminology*, 4(3), 289–302.

Skinnari, J., Jonson, A. & Vesterhav, D. (2019). *Tystnadskulturer. En studie om tystnad mot rättsväsendet*. Brottsförebyggande rådet, Stockholm.

Solomon, S., Greenberg, J. & Pyszczynski, T. (2003). Fear of Death and Social Behavior. The Anatomy of Human Destructiveness. In Bloom, R. & Dess, N. (Eds.), *Evolutionary Psychology and Violence* (pp. 129–156). Praeger, Westport, Connecticut.

Tankebe, J., Reisig, M. & Wang, X. (2016). A Multidimensional Model of Police Legitimacy: A Cross-Cultural Assessment. *Law and Human Behavior*, 40(1), 11–22.

Tarling, R., Dowds, L. & Budd, T. (2000). *Victim and Witness Intimidation: Findings from the British Crime Survey*. Home Office, London.

Timonen, J. (2020). *Asianosaisten ja todistajien uhkailu rikosprosessissa vuosina 2004–2019*. Itä-Suomen yliopisto, Joensuu.

Tyler, T.R. (1990/2006). *Why People Obey the Law.* Princeton University Press, Princeton.

Tyler, T.R. (ed.) (2007). *Legitimacy and Criminal Justice. International Perspectives*. Russell Sage Foundation, New York.

Endnotes

Chapter 1

[1] The Eurostat data are not strictly comparable, due to different structural arrangements of safety organizations in different countries. In Finland, border guard, customs services, and security intelligence services staffs do not operate within the police organization, and the same applies to defense forces in their entirety. These organizations are separate from the police organization.

[2] Unless there has been significant services supply glut or significant slack in the use of resources by the police to start with (Vuorensyrjä, 2023a).

[3] "Junior constables" are police students working as interns in the police districts during their field-work training period.

[4] The number of junior constables was 209 per year on average during 2013–2017; whereas it was 344 on average during 2007–2021, and 412 during 2007–2012 and 2018–2021.

[5] See endnote #1.

[6] See endnote #1.

[7] What is "self-confidence," then? It is confidence in one's own future self.

[8] The PBSs at the time were based on quota sampling and computer assisted personal interviews (CAPIs), with approximately 1,000 respondents in each cross-section study.

[9] *N.B.* that our way of depicting the equation is different from that of Krippendorf (2013). For the original representation, and for the details of the analysis, see Krippendorf, 2013, pp. 277–309.

Chapter 2

[10] Melo *et al.* (2020), for example, used spatial hospital data on rapes, comparing them to spatial police records. Hibdon and colleagues (2014; 2017) used data from emergency medical services in similar fashion (reference to Hibdon and colleagues by Melo *et al.*, 2020, p. 2). DeLisi *et al.* (2016) used polygraph-backed self-reported data from sexual offenders, and compared these data to the offenders' official records of sexual abuse offences. Drury *et al.* (2020) replicated the study conducted by DeLisi and colleagues, with quantitatively and qualitatively similar results. Approximately 70% of offenders with no official record of contact sexual abuse offences self-reported such offences in polygraph-backed studies. Being in possession of child pornography, in particular, turned out to be an important predictor of previously unrevealed contact sexual abuses in both of these two studies (Delisi *et al.*, 2016; Drury *et al.*, 2020).

Riascos Villegas *et al.* (2023) used 1. official records of reported crime, 2. citizens' emergency call data and 3. victimization survey data from Bogota, Colombia, to build an ambitious, almost real-time (daily) spatiotemporal simulation model of the dark figure of crime. Moreira *et al.* (2018) used stochastic frontier analysis (SFA), a method usually employed in microeconomic efficiency analysis, to estimate the dark figure of crime in Minas Gerais, Brazil. Their approach was not only innovative but also cost effective, and resulted in estimates that were rather close to the estimates derived from much more expensive victimization studies. The core idea in SFA as an efficiency analysis is in differentiating between random error component and the inefficiency error component from each other in empirical analysis (the shape of the distribution of the inefficiency error component—here the dark figure of crime error component—is determined a priori).

[11] Feminization of communities, as an interesting real-life natural experiment, has been capable of containing violence. Male-only communities, such as the early frontier communities in the West, have been violent, especially when gangs of young males have been left to operate on their own. When mothers, wives and daughters from the old world followed their sons,

husbands and fathers to America, violence of the originally male-only communities subsided (Pinker, 2011, pp. 109–127, 634–636, 827–832; see also, *e.g.*, Dess, 2003, pp. 242–244). On the evolutionary origins of violence, sexual aggression, and sexual strategies, see Dawkins (1976; 1982), Mealey (2003), and Wrangham (2019).

[12] We continue to use the concepts of neoclassical economics, *utility function* and *subjective probability*, instead of Kahneman and Tversky's (1979) *value function* and *decision weight*. What we adopt from their theory are the idea of the reference point of the decision-making situation as a key line of demarcation between the positive and negative utility zones, and the idea according to which the utility function is steeper in the negative zone, compared to the positive zone. We also accept their idea of *editing*: the decision-maker often simplifies, subjectively, the decision-making situation (the setup), before tackling the actual problem (Kahneman & Tversky, 1979, p. 274 and *passim*). It may well be that s/he is incapable of computing exact probabilities for difficult problems. However, once s/he has an established idea of the game s/he subjectively thinks s/he is playing, and knows her or his preferences, s/he is rational optimizer in the sense that s/he opts for the best of the available alternatives.

We do not believe, furthermore, that the utility function is convex throughout the negative zone (see the next endnote). As a matter of fact, Kahneman and Tversky themselves seemed to allow for alternative assumptions, in this respect (*ibidem*, pp. 278–279).

[13] The habitual way of drawing utility function in the prospect theory suggests that the rate of contraction of individual utility eases up a bit towards extremely negative values of absolute costs, exactly as the rate of growth of individual utility eases up towards extremely positive values of absolute benefits (Kahneman & Tversky, 1979, p. 279). In the positive zone, the concavity assumption is probably correct. In the negative zone, however, we doubt the convexity assumption. The slope of the utility function may never ease up, not at least towards the negative end of the scale. The slope may actually be downward accelerating in the extremely negative utility zone. Losses would weigh proportionally ever more, then, in the extremely negative subzone.

The difference in our thinking, compared to Kahneman and Tversky's, derives from our definition of extremely negative values of absolute costs. Kahneman and Tversky (1979) analyze the risk of losing large dollar amounts. We analyze the threat of brutal physical violence directed at the decision-maker her- or himself, of her or his death, or even of the death of the decision-maker's loved ones.

The difference depicted in the above is not decisive from the point of view of our argument in the current study, but it is something worth considering in cases of extremely negative prospects, such as decision-making situations involving death threats.

[14] Some of these memories are probably unconscious, emotionally loaded records in the human brain, not conscious ideas. Long-term detrimental psychological effects—Post-Traumatic Stress Disorder, anxiety disorder, depression, persistent somato-form pain disorder—have been observed in empirical studies among people who have been exposed to violence; who have been threatened (including death threats), attacked, kidnapped, tortured, and so on (Morewitz, 2008, pp. 106–107).

[15] Death threats, which are common in many different contexts, including the context of domestic violence (Morewitz, 2008, p. 6, p. 19, and *passim*), may have a particularly strong and robust effect in this respect. In terror management literature, over a wide-range of different experimental settings and real-life situations, "mortality salience"—reminding people of their mortality—has been demonstrated to have profound effects on human decision-making (Solomon *et al*., 2003, pp. 142–146, and *passim*).

[16] "Cognitive disabilities" had to do with "serious difficult[ies of] "concentrating, remembering, or making decisions" because of a physical, mental, or emotional condition." Having "physical disabilities" was depicted as a condition where the subject had mobility constraints, "(…) including having serious difficulty "dressing or bathing" and/or "running errands alone such as visiting a doctor's office or shopping" because of a physical, mental, or emotional condition" (Powers & Hayes, 2022, p. 11).

[17] Professional two-way translation processes by native Finnish, Swedish, and English speakers have been used in the PBS project. Here, however, for some reason, the meaning was lost in translation (into English and back into Finnish), as the notion in Finnish is "aseellinen uhkaus" ("väpnad hot," in the Swedish questionnaire), corresponding to "armed threat," in English. Hence, for the 173/4,044 respondents (4.3%) using the English version of the questionnaire (Ministry of the Interior, 2023, p. 31), the meaning was slightly distorted.

[18] We also cross-tested the core independent variables of Chapter 3—perceived protection and perceived procedural justice—in the context of the current study. We tested whether or not these variables could, perhaps, predict non-reporting due to fear of reprisal, using the same method (the Wilcoxon rank-sum test) as the authors of Chapter 3. The background variables we used in the within-group analyses were gender, age, and yearly gross income.

Statistically significant dependencies were detected between non-reporting due to Fear of Reprisal (FR group, ¬FR group) and perceived protection within the female group of respondents ($z = -2.933$, $p < .01$; $N = 1{,}190$), within the 30–49 age group of respondents ($z = -2.722$, $p < .01$; $N = 808$), within the upper mid-income group ($z = -2.031$, $p < .05$; $N = 973$), and within the high-income group ($z = -2.432$, $p < .05$; $N = 525$). The dependencies were all negative. So, the mean rank among the female victims, for example, who had left crimes unreported out of fear of reprisal (the FR group) was lower than the mean rank among female victims in the ¬FR group. In other words, they had lower confidence in the ability of the police to protect people from violence than those in the ¬FR group.

Statistically significant dependencies were also detected between (FR, ¬FR) and perceived procedural justice within the youngest age group (–29; $z = -2.755$, $p < .01$; $N = 349$), and within the lower middle-age group of respondents (30–49; $z = -1.977$, $p < .05$; $N = 764$), but not within any other group. The dependencies were negative. The mean rank among both the young and the younger than average victims who non-reported out of fear of reprisal (the FR group) was lower than the mean rank among those in the ¬FR group. In other words, they had lower confidence in procedural justice of the police than those in the ¬FR group. In terms of non-reporting due to fear of reprisal, then, perceived protection may be an issue for several different demographic groups, including female victims of crime, whereas perceived procedural justice of the police may be an issue for the young and younger than average victims of crime.

[19] Car theft or attempted car theft.

[20] Other crime or disturbance.

Chapter 3

[21] "Vissa [brottsoffer] väger rädslan mot förtroendet för att polisen ska kunna garantera deras säkerhet, samt förmågan att klara upp brottet. Om anmälan väntas leda någon vart menar några brottsoffer och vittnen att de är villiga att ta en något större risk med sin egen säkerhet. Särskilt problematiskt är därför att flera brottsoffer både uttrycker stor rädsla och lågt förtroende för polisens kapacitet att skydda dem." (Skinnari et al., 2019, p. 58).

[22] "Jag litar på polisen, men de kan inte skydda mig, det vet jag ju. [Gärningspersonen] har familj, vänner i området, farliga personer. De kriminella skyddar honom bättre än myndigheterna kan skydda mig. Alla blir emot mig om jag bråkar med honom, om jag pratar med polisen (…)" (Skinnari et al., 2019, p. 86).

[23] Note that, it is possible to present the data of the study also in the form of a flow-chart. For such an exhibit, see Ministry of the Interior (2023, p. 106).

[24] For methodological reasons the tests of the study were formulated in a causally inverted manner, as if (v1) and (v2 + v3) were dependent variables, even hough we think of them as independent variables. The analysis of the essentially ordinal variables (v1) and (v2 + v3), with 7 to 11 distinct categories, was relatively simple and straightforward this (inverted) way.

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The Police and the Public.
In-Depth Essays Based on Police Barometer Survey Data, Vol. I

The Police and the Public (Vol. 1) seizes some of the opportunities for further scholarly research provided by the renewed Police Barometer Survey (PBS) project. From the PBS 2022 sweep on, the survey is based on random sampling methodology. The sample has been drawn from the database of the Digital and Population Data Services Agency of Finland, and prepared for the analysis by Statistics Finland. The data have exceptionally robust statistical grounds.

The three essays of the book provide unique, new perspectives to 1. Resource shortages of the police, of which the respondents of the PBS appear to be very concerned; 2. Crimes that go unreported due to fear of reprisal, and; 3. Witness intimidation; a phenomenon that threatens not only the individual witness and her or his rights, but the entire polity: the law, the rule of law, and the constitution of liberal democracy itself.

The articles of the book offer valuable reading to scholars and students in the fields of police studies and criminology, and to policy analysts of the police.

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