



ACTA UNIVERSITATIS CAROLINAE  
PHILOSOPHICA ET HISTORICA 2/2018  
STUDIA SOCIOLOGICA



ACTA UNIVERSITATIS CAROLINAE  
PHILOSOPHICA ET HISTORICA 2/2018  
STUDIA SOCIOLOGICA

# STUDIES ON CRIMINOLOGY 2

---

CHARLES UNIVERSITY • KAROLINUM PRESS • 2018

Editor: Jiří Buriánek (Charles University), Zuzana Podaná (Charles University)

<http://www.karolinum.cz/journals/philosophica-et-historica>

© Charles University, 2018  
ISSN 0567-8293 (Print)  
ISSN 2464-7055 (Online)

## TABLE OF CONTENTS

Foreword .....	7
Jan Tomášek, Jan Rozum, Recidivism as a measure of the effectiveness of sanctions: experience from the Czech Republic .....	9
Eva Krulichová, Life satisfaction and happiness: discussing the impact of fear of crime and victimization .....	23
Jiří Buriánek, Violence against men as moderated by couple's self-control configurations .....	39
Zuzana Podaná, Corporal punishment of children by parents in the Czech Republic: Attitudes, prevalence rates, and intergenerational transmission of violence .....	57
Iveta Čermáková, Zuzana Podaná, Alcohol use by youth in the Czech Republic and Finland: An empirical test of Skog's theory of the distribution of alcohol consumption .....	77
Pavla Homolová, Theories of police legitimacy – its sources and effects .....	93
Tomáš Diviák, Sinister connections: How to analyse organised crime with social network analysis? .....	115



## FOREWORD

Because I know well that the reader who comes across the magazine first of all looks at the contents of the number, I find somewhat dubious to comment the list of the papers accepted for this issue. In addition, it might seem like I feel the need to better interpret the ideas of individual authors or to connect them in some clever way. Thus, there is only one possibility for the author of the foreword: to find an idea behind the whole number, and to reveal it to the reader in advance.

We launched the first issue *Studies on Criminology* on the occasion of the Prague European Society of Criminology conference in 2014. The aim was to open the door of Czech criminology to the Europe and to settle it even more firmly into the world context. The just published new thematic issue of *AUC* could therefore be used to put a foot in the open door so that someone could not accidentally close it. However, this is not a very elegant metaphor, and the current state of criminological research practically excludes such a possibility. Nevertheless, we want to open the door: among the authors we get colleagues from other institutions, we broaden the spectrum of topics and we look forward to gaining further cooperation opportunities. It is not just about foreign readers. Criminological research, which we are referring here, brings a great volume of valuable data: that is why we will be glad if other professionals or students of all levels of study start to be interested in them. But we also do not hide the intention of presenting our department as an environment in which research is succeeding and in which many young researchers are developing their talents.

This number contains 7 articles and its baseline leads from empirically oriented studies to theoretical and methodological issues. First of all, we include contributions from “visiting” authors although this label is not entirely accurate. A comprehensive and detailed analysis is offered in the article “*Recidivism as a Measure of the Effectiveness of Sanctions: Experience from the Czech Republic*” by Jan Tomášek and Jan Rozum. Eva Krulichová submits a title “*Life satisfaction and happiness: discussing the impact of fear of crime and victimization*”, and she is trying to find out to what extent victimization experience and fear of crime influence life satisfaction and happiness of Czechs. The results of her analysis reveal a direct relationship between fear of crime and subjective well-being.

The research program of the Sociology department is represented by two papers of J. Buriánek and Z. Podaná. The first one, entitled “*Violence against Men as Moderated by Couple’s Self-Control Configurations*”, offers an original typology of couples, the second paper focuses on the important cultural patterns that characterize the Czech society. In

her “*Corporal punishment of children by parents in the Czech Republic: Attitudes, prevalence rates, and intergenerational transmission of violence*” Zuzana Podaná analyzes the use of corporal punishment of children by parents in Czech society, while making use of several quantitative surveys conducted both among adolescents and in the adult population.

A good example of student’s involvement into research is given in the case of the study based on results of Iveta Čermáková’s (2016) master thesis. The article “*Alcohol use by youth in the Czech Republic and Finland: an empirical test of Skog’s theory of the distribution of alcohol consumption*” (I. Čermáková and Z. Podaná) focuses on alcohol consumption among Czech and Finnish adolescents. It describes the situation regarding alcohol consumption in both countries, including trends in consumption in recent years, and it presents and tests the theory of the distribution of alcohol consumption by a Norwegian sociologist Ole-Jørgen Skog, which has had an influence on many alcohol policies.

A huge theoretical background demonstrates the study of Pavla Homolová on “*Theories of police legitimacy – its sources and effects*”. The article of our young doctoral student Tomáš Diviák “*Sinister connections: How to analyze organized crime with social network analysis?*” addresses a fashionable topic of networks. In criminology, social network analysis (SNA) provides a promising tool for analysis of organized crime. This paper introduces basic network terms and measures as well as advanced models and reviews their application in criminological research.

I hope that this initial review of the content will push the reader to entry and to taste the rich variety of incentives. It is nice that a monothematic issue sacrificed on Criminology does not mean that it looks as monolithic. Finally: here is the idea searched behind!

*Jiří Buriánek*



---

## RECIDIVISM AS A MEASURE OF THE EFFECTIVENESS OF SANCTIONS: EXPERIENCE FROM THE CZECH REPUBLIC

JAN TOMÁŠEK

Institute of Criminology and Social Prevention

E-mail: jtomasek@iksp.justice.cz

JAN ROZUM

Institute of Criminology and Social Prevention

E-mail: jrozum@iksp.justice.cz

### ABSTRACT

Recidivism is one of the measures that can be used to evaluate the effectiveness of sanctions imposed by the criminal justice system. The article summarizes findings from the most extensive research of this type in the Czech Republic. The sample included a total of 4,233 individuals sentenced to house arrest, community service, suspended sentences with supervision or released from prison in 2012. Recidivism was defined as a new record in the Criminal Register in 2014. It was revealed that 48.1% of the sample re-offended in the two year period. While the type of sanction imposed on the offender had a negligible impact, the likelihood of a new conviction was strongly linked to gender, age and previous criminal career. The significance of previous convictions and their number was confirmed also by the multivariate analysis using logistic regression. The importance of these findings is high and the recidivism should be monitored systematically in the Czech Republic. However, as the research showed, it is impossible to connect the effectiveness of crime control with simply finding “effective sanctions”. Inevitably, the criminal policy must be understood as an integral part of social policy.

**Key words:** Recidivism; effectiveness of penal policy; alternatives to prison; criminal career

### Introduction

The effectiveness of sanctions or other measures imposed by the criminal justice system can be evaluated by different criteria. Looking back in history suggests the approach to this problem changed often according to prevailing attitudes toward crime, its causes and the overall chances of offender’s rehabilitation. In recent decades, however, there has been a clear trend in measuring the effectiveness of sanctions almost exclusively by recidivism (King, 2014). Some authors even write of a certain obsession with this criterion, which strikingly reflects the culture of “fear” or “risk” in which we live (McNeill, 2000). It must also be kept in mind that the use of recidivism as a measure of effectiveness has a number of methodological and other problems, and therefore should not be used without an appropriate critical approach. However, this is rarely encountered in public discourse on effective punishment.

<https://doi.org/10.14712/24647055.2018.1>

© 2017 The Authors. This is an open-access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>).

It should be noted that the very term recidivism is often ambiguously defined. As described by Marešová (Marešová et al., 2011), it can be understood to have at least three basic meanings, these being in the context of criminal law, criminal statistics and criminology. If we are interested in assessing the effectiveness of a particular type of sanction, the question is essentially limited to the relatively simple task of determining whether or not an individual sentenced for a previous criminal act committed another crime (Bushway, Brame, & Paternoster, 2004). Methodologically, however, this is a rather complex task. Some studies are based on records of criminal prosecution, others on information about new convictions or even imprisonment (Israel & Wing Hon Chui, 2006), but all are significantly limited by the fact they do not encompass the area of hidden crime.

It is widely known that not all offences are reported or detected by the police, and subsequently investigated, resolved, prosecuted and convicted. We can learn nothing of hidden crime from official databases kept by different components of the criminal justice system, which suggests the number of offenders is in fact always higher (Merrington & Stanley, 2007). There are disputes on the extent of hidden crime. However, its degree is certainly largely affected by the intensity of formal and informal control, tolerance of victims and level of citizens' legal awareness (Grivna, Scheinost, & Zoubková, 2014). There are undoubtedly major differences in terms of the type of crime. As victimological research has shown, the percentage of victims that do not report the offence to the police differs significantly based on the seriousness of the crime or the damage, while various psychological aspects can also play a role, such as embarrassment, shame or fear of the offender (Tomášek, 2010). In addition, we must also take into account the different detection rates. The likelihood of the capture and subsequent conviction of the offender is much higher for some crimes than for others. Crime register will therefore always be a more reliable source of data on serious violent crime than petty property crime.

One of the ways to encompass hidden crime is through self-report studies, the essence of which is to anonymously question potential offenders about their criminal activity, regardless of whether it was officially registered or not. The well-known Cambridge Study in Delinquent Development, which applied this method, notes that although 93% of surveyed men admitted to committing at least one crime during their life so far, official criminal records could only be found for 29% of them. Thus there were 39 criminal offences detected in self-reports for every one official conviction, with almost half of all offences captured in self-reports committed by individuals who had never been convicted (Farrington, Coid, & Harnett, 2006). It is precisely this type of conclusion that has led some experts to declare that recidivism (or reoffending) is a variable that cannot be objectively measured (King, 2014).

Work with official data on new convictions is complicated by further methodological problems. For example, Lloyd et al. (Lloyd, Mair, & Hough, 1994) discuss the problem of the period for which recidivism should be monitored, as we cannot say with certainty there is no risk of criminal behaviour in the case of offenders who have not committed a crime for several years. The problem with different periods of tracking recidivism, which are usually determined by the authors of relevant criminological research, considerably limits their subsequent comparison. Although the first years after serving a sentence pose the greatest risk in terms of further criminal activity, the longer the period

over which recidivism is monitored, the higher the percentage of offenders we can expect to find with new convictions. Lloyd also pointed out that the new convictions cannot be automatically identified as a new crime. There is always a certain time lag between the criminal act itself and the imposition of sanctions for its commission, which may give rise to a situation where the offender is sentenced for a crime in the monitored period, which had in fact already occurred before serving the sentence whose effect is being evaluated.

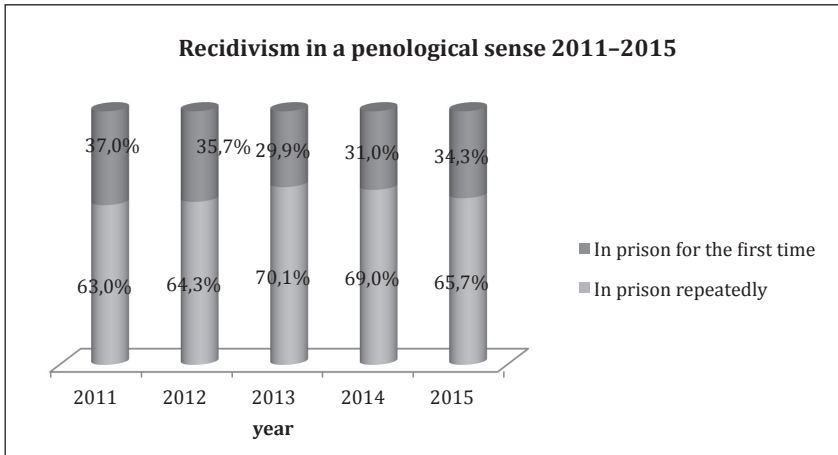
Another point worth considering is the appropriateness of the criterion of recidivism to assess the effectiveness of sanctions or other measures imposed by the justice system. As noted by King (King, 2014), most analyses perceive recidivism as a purely dichotomous event, i.e., in the sense of “all or nothing”. If an individual has a record of a new conviction, this is taken as evidence that the relevant intervention failed. However, this devised measure for assessing the impact of various sanctions and measures on the lives of individuals is much too “harsh”. For example, we can imagine a situation where the execution of certain sanctions helps solve some of the problems faced by the offender (for example, he/she finds a job and solves his/her debts thanks to the activities of the probation officer), but recidivism still occurs – yet identifying such an intervention as “ineffective” would be debatable at the very least. Similarly, the dichotomous concept of recidivism does not discern important changes in the offender’s criminal career (for example, a transition from serious violent crime to petty property crime), or take into account the positive impact of sanctions in cases where individuals are deterred from criminal activity, at least for some time. More in-depth analyses should therefore also monitor the types of crime and interval after which a new conviction occurs.

Despite these objections, however, data on recidivism is indispensable for the rational development of criminal policy. Among other things, it provides feedback for different components of the criminal justice system that impose sanctions and other measures and ensure their execution (public prosecutors, the courts, the prison service and the probation service). In many countries, we can see efforts in recent years to ensure that data on recidivism becomes an integral part of standard criminal justice statistics. This is aided by the Council of Europe, which supports efforts to improve the collection of this data in all Member States, including for the purpose of mutual comparison. This data can also be applied to the development and improvement of instruments for identifying the risks of future reoffending.

### **Monitoring recidivism in the Czech Republic**

Criminal recidivism is not systematically monitored in the Czech Republic in relation to imposed sanctions and their effectiveness. Although police and judicial statistics indicate what percentage of the total number of prosecuted or convicted individuals are repeat offenders, the specific sanctions or other measures imposed on these individuals in the past cannot be determined. The specific type of recidivism on which we have basic statistical data in our conditions is only recidivism in a penological or penitentiary sense (repeat prison sentences). In recent years, this data has become part of official statistics published by the Prison Service of the Czech Republic. Graph 1 is based on this data, tracking the offenders serving prison sentences in 2010–2015 and showing the rate of

inmates not being in prison for the first time in the given year. If we consider the effectiveness of imprisonment on the basis of this data, it can certainly not be considered an effective intervention in terms of further criminal activity. In fact, roughly two thirds of convicted offenders committed further crimes, even though they had experienced prison, and often even repeated criminal offences.



**Graph 1**  
Source: The Prison Service statistics

To evaluate the effectiveness of other sanctions, we must rely solely on individual criminological studies. The database from which their authors can draw information on recidivism is primarily the Criminal Register. It is remarkable that in contrast to other countries, this source was long unused for criminological research in our conditions. This was critically pointed out by Novotný and Zapletal (Novotný & Zapletal, 2001), who rightly assumed an analysis of this data would contribute to both clarifying the amount of crime, gaining a deeper understanding of criminal recidivism and assessing the effectiveness of imposed sanctions. The Criminal Register began to be used in this spirit by the Institute of Criminology and Social Prevention in its research after the year 2000. The first study was devoted to the effectiveness of supervision in case of offenders conditionally released from prison (parole). It encompassed a sample of 642 individuals released in 2003. New convictions during the period of supervision were registered in 39.9% of cases (Rozum, Kotulan, & Tomášek, 2008).

Another criminal justice measure, whose effectiveness was studied through records of new convictions, was mediation between the offender and the victim of crime (Rozum et al., 2010). Data on 311 accused individuals who had undergone mediation in 2005 was analysed. Information on recidivism was collected in May 2009. It was found that about one quarter of the sample (25.4%) had records of a new conviction. A less favourable figure emerged from a study of probation programmes for juveniles, which included data on 326 individuals who had completed such a programme in 2006. Recidivism was examined using the Criminal Register in September 2010, nearly four years after participation in the programme. The recidivism rate was 52%, despite the fact the vast majority of

offenders (89.6%) had entered the programme as first-time offenders (Rozum, Kotulan, Špejra, & Tomášek, 2011).

The most extensive research of its kind in the Czech Republic to date was compiled by the authors of this article as part of a research project on the effectiveness of penal policy, which was conducted in cooperation between the Institute of Criminology and Social Prevention and the Department of Social Work of the Faculty of Arts, Charles University (Scheinost, Rozum, Háková, Tomášek, & Vlach, 2015). For the first time there was a direct comparison of the effectiveness of different types of sanctions in our country. The research sample included a total of 4,233 individuals. Their selection was based on two criteria, the exact period in which the imposed sanction or measure was recorded in the Criminal Register (1 April to 30 June 2012), and the type of sanction. Given the project topic, the authors were interested in persons sentenced to house arrest (126 offenders in our sample), community service (2,232) and suspended sentences with supervision (1,067). The fundamental question in terms of effectiveness was how the recidivism rate would vary from the recidivism rate of persons sentenced to unconditional imprisonment. For this reason a control group was created, which included persons previously sentenced to imprisonment, whose sentences has ended during the three months in 2012 (808 offenders). The sentence had either ended by serving their entire term (499), conditional release from prison with supervision (75), or without supervision (234). Recidivism was then defined as another record in the Criminal Register, which was traced in July 2014. Therefore this covered a roughly two-year period during which further criminal activity was monitored.

Most of the sample was male (90.6%) and of Czech nationality (92.5%). The average age in the year 2012 was 33. The youngest individual had only just reached the age of criminal liability (15 years of age), the oldest being 78. Almost half of the sample was under thirty years of age, 74.2% of the sample was under 40. Table 1 shows the sample divided into individual age categories combined with gender.

**Table 1:** Sample by the age and sex

Age	Men	Women
15–18	3.1	1.0
19–21	11.9	11.5
22–29	28.5	27.3
30–39	30.7	34.0
40–49	17.7	19.3
50–59	6.4	6.0
60 and more	1.7	1.0
Total	100.0%	100.0%

In terms of criminal activity, the biggest representation was undeniably theft. It was committed by 1.382 offenders, i.e. almost one-third of the sample (32.6%). Other offences frequently represented in the sample were obstruction the execution of an official decision (14.5%) and neglect of duty of sustenance (14.1%). More serious crimes against life and health were on the contrary quite rare (only 3.9% of the sample were convicted for

assault and 0.9% for burglary). At the same time, however, only about 12% of the sample had been convicted for the first time in 2012. Others entered the study as “recidivists” for whom almost five previous convictions could be found in the Criminal Register on average (4.9; st. deviation 4.2). Table 2 provides a more detailed overview. It is worth noting that the most extreme case was a man with 39 previous convictions, followed by 34 and 30 convictions by those next in line. A total of 46 people (1.0%) had more than twenty convictions; more than one tenth of the entire sample was individuals with a minimum of ten convictions. A third of repeat offenders (33.4%) had also experienced imprisonment in the past (men differed significantly here at 39.3% from women at 24.5%).

**Table 2:** The number of previous convictions

Convictions	
0	12.0
1	16.3
2	15.9
3	11.3
4	8.7
5–9	25.3
10 and more	10.5
Total	100.0%

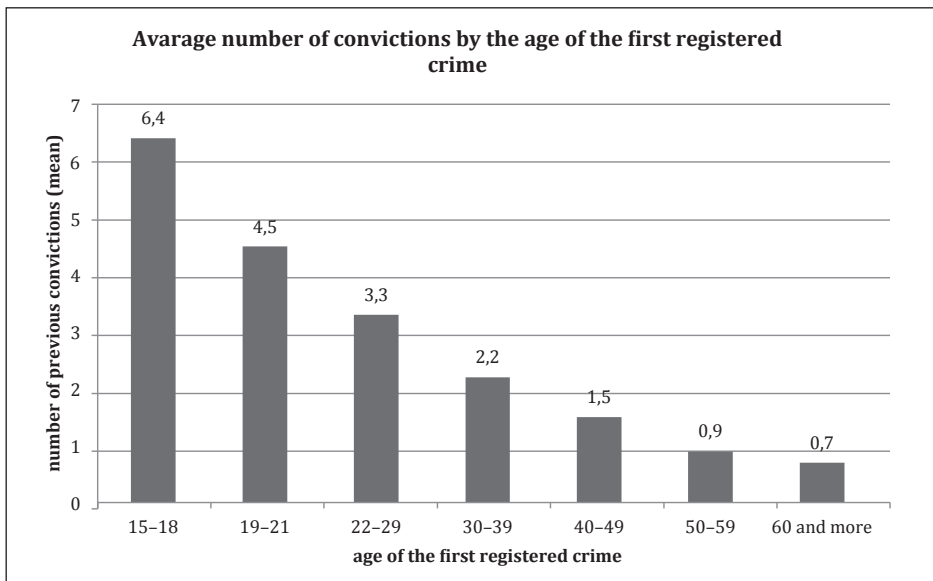
An important factor in the criminological point of view is the age at which individuals first come into contact with the criminal justice system. Research has convincingly shown that the sooner the first conviction occurs, the higher the probability an individual’s criminal career will last longer and the number of committed offences higher (Farrington, 2008). In fact, this is such an important predictor of reoffending that most instruments for identifying the risks of recidivism work with it. A check of the Criminal Register found that the average age of first conviction in our sample was 23.5 years (st. deviation 8.1). More than half of the sample (58%) committed their first crime before 22 years of age, 82.4% of the sample before the age of 30. Table 3 gives a more detailed overview of the age of offenders on their first record in Criminal Register, which also illustrates the statistically significant differences between men and women (criminal careers were typically commenced by men in our sample at a younger age than women). The average age of first conviction for men was 23.1, while this was 26.8 for women.

In accordance with the findings of developmental criminology, it was confirmed that the sooner an individual commits their first crime, the greater the total number of offences they can be expected to commit. The Pearson correlation coefficient for this relationship in our sample was  $-0.33$  (significant  $p < 0.01$ ), which is aptly illustrated by Graph 2.

As previously stated, the effectiveness of sanctions was examined in July 2014. In other words, we investigated whether there had been any further convictions during the two year period. The resulting figure is far from positive – 2,038 individuals had a new record in the Criminal Register, i.e. 48.1% of our sample! Basically, every second person re-

**Table 3:** Age of the first conviction by sex

Age	Men	Women
15–18	30.2	10.3
19–21	29.9	28.0
22–29	23.7	30.8
30–39	10.9	21.0
40–49	3.8	8.0
50–59	1.1	1.5
60 and more	0.5	0.5
Total	100.0%	100.0%



**Graph 2**

offended in the two year period. Moreover, cases where recidivism had occurred repeatedly were no exception. As Table 4 shows, a quarter (24.3%) of our sample had more than one new record in the Criminal Register. The average number of new convictions for the entire sample was 0.96 (st. deviation 1.4), but almost two acts for the group of convicted re-offenders (1.99; st. deviation 1.4). One offender had an almost unbelievable fourteen new convictions, and three others eleven convictions. A total of 4.065 new records of convictions were attributed to our sample. We also monitored the time interval in which new convictions appeared in the Criminal Register. For two thirds of re-offenders (65.9%) this was in the first year (for 37.1% in the first six months), the remainder (34.1%) at an interval of one to two years.

**Table 4:** Number of new convictions in Criminal Register

Convictions	Offenders	%
0	2193	51.8
1	1013	23.9
2	507	12.0
3	279	6.6
4	123	2.9
5 and more	118	2.8
Total	4,233	100.0

The premise that one of the sanctions would emerge as more effective than the others was not confirmed at all. Although it could be said the largest percentage of repeat offenders were those given suspended sentences with supervision (49.4%) and the lowest were among those sentenced to prison (45.0%), the observed differences were not statistically significant. As indicated in Table 5, the type of sanction imposed on the offender by the court had a negligible impact on whether or not they subsequently committed another crime. Significant factors that influence criminal behaviour probably lie beyond the reach of the criminal justice system, which is a finding that regularly appears in criminological studies (Soothill, Fitzpatrick, & Francie, 2009). As documented in earlier studies by the Institute of Criminology and Social Prevention, most experts working in the Czech criminal justice system are well aware of this fact (Scheinost, Háková, Rozum, Tomášek, & Vlach, 2014).

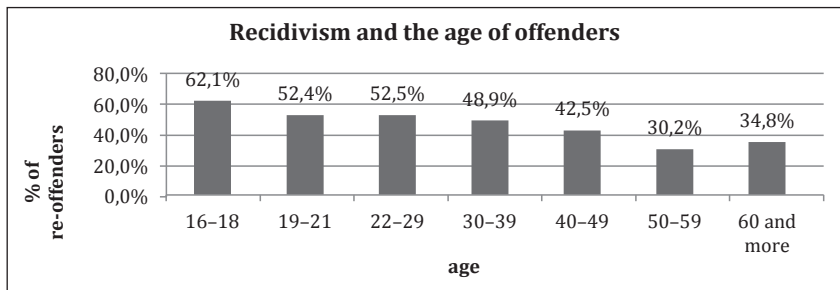
**Table 5:** Recidivism and the type of sanction

Sanction	Recidivism rate (%)	Average number of new convictions
Community service	48.8	0.95
Suspended sentence with supervision	49.4	1.01
House arrest	46.0	1.01
Prison	45.0	0.92
Total	48.1	0.96

While the impact of the type of imposed sanction on recidivism proved controversial, a different finding applies to basic demographic data on convicted offenders. The likelihood of a new conviction was strongly linked to gender. The men in our sample re-offended significantly more often than women (48.8% vs. 41.5%;  $p < 0.01$ ) and the average number of new records in the Criminal Register was also higher, although the difference was not statistically significant (0.97 vs. 0.92). Age is considered as a very reliable predictor of recidivism in criminological literature (Farrington, 2008). As illustrated by Graph 3, our study also confirmed the importance of this factor. With the exception of the oldest category of offenders (over 60 years of age), the rate of recidivism noticeably declined with age. While 62.1% of juvenile offenders had records of a new conviction,



this was less than 50% for those over the age of 30 (and only about one-third in the over 50 category). In the category of oldest offenders who defy this trend, it must be said that many crimes were related to driving (driving without a license or driving under the influence). Therefore this relates to criminal activity the police can detect more easily than other types of crime, and catching and subsequently convicting the offender is thus more likely. Moreover it may be said the police has systematically focused on this phenomenon in recent years thanks to new technical equipment (detectors) and checks on Czech roads are fairly common.



Graph 3

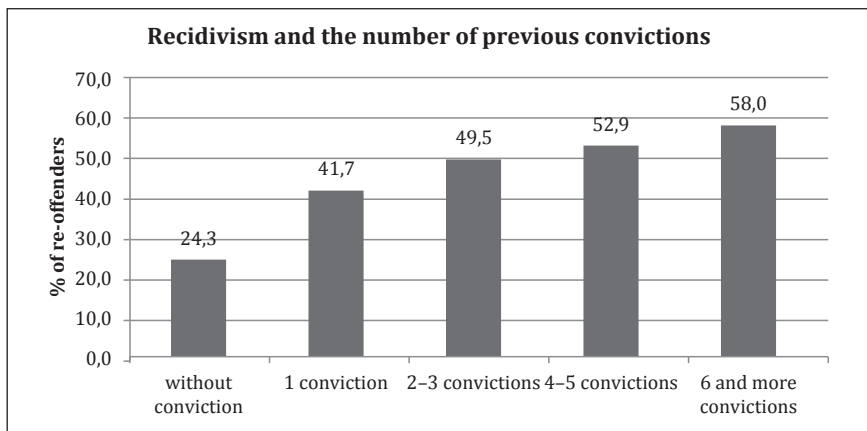


Graph 4

The analysis also confirmed the importance of the age at which the individual first came into contact with the criminal justice system (the sooner an individual was first sentenced, the greater the likelihood a new conviction would appear on their criminal record in the monitored two year period). This relationship is illustrated in Graph 4. However, the correlation itself is only weak ( $r = -0.19$ ,  $p < 0.01$ ).

As expected, a crucial factor associated with a higher probability of recidivism was the offender's criminal past. People who had a previous criminal record reoffended in 51.4%, while those who entered our sample as first-time offenders only reoffended in 24.1%

( $p < 0.001$ ). As expected, the average number of records of new convictions in the Criminal Register also differed. While this was 1.03 in the former group; for first-time offenders this was only 0.44 ( $p < 0.001$ ). Graph 5 demonstrates a clear relationship between the number of previous convictions and risk of recidivism – if we divide our sample into categories according to the number of previous convictions, it is evident this is closely related to the percentage of re-offenders with previous records (differences between individual categories were statistically significant at  $p < 0.001$ ).



**Graph 5**

If we only focus on convicted offenders with a previous record in the Criminal Register, it can be said that a higher rate of recidivism could be traced to people who had been sentenced to prison in the past (56.3%) – while for individuals who had not been sentenced to such punishment in the past, this was 48.4% ( $p < 0.001$ ). There was also a statistically significant difference between these two groups in the average number of further convictions recorded in the Criminal Register in 2012 (1.19 vs. 0.94;  $p < 0.001$ ). With regard to the type of criminal activity, the number of re-offenders was higher among perpetrators of crimes against property (theft), and lowest among perpetrators of crimes against life and health.

### Multivariate analysis of recidivism

The nature of the data collected in our study also offered the opportunity for multivariate analysis using logistic regression. Unlike bivariate analyses, the conclusions of which are summarised above, this method allows us to evaluate how each factor entered in the analysis contributes to explanation of our dependent variable while controlling for all other factors. The model is shown in Table 6. We estimate chances (odds ratio, OR) that a new criminal record appears in the Criminal Register, for an offender convicted in 2012 and included in our sample, over the next two year period. The dependent variable is thus recidivism, or a new entry in the Criminal Register after 2012 (1 = yes). As

independent variables, gender, the convicted offender's current age, the age at which he or she committed their first offence registered in the Criminal Register, the type of crime for which he or she was convicted in 2012 (the analysis considers only the most frequent types of crime, i.e. theft, neglect of duty of sustenance, obstruction the execution of an official decision and assault), the sanction imposed for this crime, previous convictions (whether he or she has been previously sentenced), and finally the number of previous convictions were entered in the analysis. These factors can be considered as relevant in terms of criminology and its findings on criminal careers or recidivism. The model was computed for 2,761 individuals.

**Table 6:** The influence of different factors on recidivism (logistic regression)

Variables	b		OR
Sex (1 = man)	0.116		1.123
Age	-0.061	***	0.941
Age of the first conviction	0.016	*	1.016
Typ of crime 2012 (ref = theft)			
neglect of compulsory maintenance	-0.059		0.942
obstruction the execution of an official decision	-0.139		0.870
assault	-0.837	***	0.433
Sentence in 2012 (ref = prison)			
house arrest	-0.049		0.952
community service	0.394	***	1.483
suspended sentence with supervision	0.555	***	1.742
Previous conviction (1 = yes)	0.858	***	2.359
Number of previous convictions	0.137	***	1.147
Constant	0.098		
Pseudo R <sup>2</sup>			0.129
Cox & Snell R <sup>2</sup>			0.096

N = 2,761

\*\*\* p < 0.001; \* p < 0.05

Contrary to bivariate analysis, there were no differences between men and women. Age, however, remains a significant predictor of recidivism in our sample suggesting that older people have lower chance to reoffend than their counterparts. With regard to the type of criminal activity we find out that compared to those who were convicted of theft in 2012, perpetrators of assault (OR = 0.433) reoffended less. This confirms the fact that recidivism is somewhat more common among perpetrators of crime against property. Previous convictions and their number, i.e. whether an individual had been convicted before 2012 (OR = 2.359) and the number of convictions they had in the Criminal Register (OR = 1.147) also proved to be statistically significant. The chance of recidivism is thus increased by the fact an individual was convicted before 2012, and the number of such convictions.

As regards the type of sanction, the results of this analysis are very interesting. While bivariate analyses led us to conclude this factor was almost negligible in terms of subsequent recidivism, the regression model speaks in favour of imprisonment. By comparison, offenders sentenced to other types of punishment re-offended significantly more often (except of house arrest). This was especially true for conditional sentences with supervision (OR = 1.742) and community service (OR = 1.483). Such a conclusion supports the theory that imprisonment has the strongest potential of all monitored sanctions in terms of individual prevention (experience with imprisonment is so unpleasant for convicted offenders that it deters them from further crime). However, in our opinion such an interpretation of the resulting model would not be correct. We are afraid this is more the effect of certain methodological problems this analysis faced.

What matters above all is the nature of the Criminal Register, or the data it offers. As we mentioned, a record of a new conviction cannot be seen as clear evidence of recidivism. The problem lies in the fact that the record itself is not consistent with the actual time the act was committed – on the contrary, there is always a certain time lag between the commission of a crime and the offender’s conviction, the length of which depends on the work of individual criminal justice authorities. For our study, this means that some of the offences that appeared in the Criminal Register in the monitored period 2012–2014, were in fact committed earlier (i.e. before the date we used for the inclusion of selected individuals in our sample). This fact may not play a crucial role in the overall results, however if it significantly manifests anywhere, it is precisely in relation to the type of imposed sanction. For individuals included in the sample based on a prison sentence, there was naturally a much smaller chance of a new conviction appearing in the Criminal Register after 2012, committed in a short period before that compared to other sanctions (prevented by their incarceration). Extra attention must therefore be devoted to the category of records that appear in the Criminal Register in the first six months of the monitored period – where the risk of a time shift is greatest.

Table 7 supports such reasoning. It captures individuals for whom we found new records in the Criminal Register after 2012 (a total of 2,040 convicted offenders), with the time interval at which this new record appeared after the record in 2012 for each sanction. It is no coincidence that the shortest of these (less than 6 months) is represented considerably less often in cases of imprisonment than for other sanctions (just 25.6%). Of course, we have no certainty whether these facts are responsible for the difference between the results of bivariate analyses and our regression model. For such a conclusion we would need data of a different nature than records of new convictions (ideally directly

**Table 7:** Type of sanction and the time of new conviction in Criminal Register

New conviction	Community service	Suspended sentence with supervision	House arrest	Prison
Less than 6 months	41.6	35.3	41.4	25.6
6 months – 1 year	27.5	29.7	31.0	31.3
More than 1 year	30.9	35.0	27.6	43.1
In total	100.0%	100.0%	100.0%	100.0%

related to the solved crime). This could be obtained, for example, through a study of court records, but such an analysis would be impossible for such a large sample as that chosen for our study.

In addition to the aforementioned distortion, there is also an objection that some categories of convicted offenders were not included in the regression model for methodological reasons, and that as a result, the sample used for logistic regression could have different characteristics to the whole research sample. Likewise, we must remind that an assessment of the rehabilitative effect of some alternatives to prison (mainly community service and probation) is controversial, as the time limit we had for monitoring was too short and the punishment itself may not have been fully served.

## Conclusion

This study of the Institute of Criminology and Social Prevention received a strong response from the professional public. This can be seen as proof that monitoring the effectiveness of sanctions according to the criterion of recidivism can significantly influence the ongoing debate on criminal policy and its overall direction. There is no doubt that concrete data on the rate of recidivism by convicted offenders sentenced to different types of sanctions is the most promising avenue for debate on effective criminal policy to shake its speculative, and sometimes ideological or populist tendencies. Knowing the facts enables the issue to be approached rationally, and in a situation where the effect of alternative sanctions seems to be very similar to the effect of imprisonment, it opens up the chance to give greater consideration to such criteria as economic cost. If we compare prison index in the Czech Republic to that of more economically developed countries in the European Union, it is clear that any opportunity must be taken to change, or at least significantly influence the conservative views of politicians and the public on the options for punishing offenders.

Criminological studies dealing with sanctions and their effect will continue to emerge from the Criminal Register. The question is whether, given the seriousness and importance of this issue to society as a whole, they can satisfy the need for basic information and knowledge. We believe that crime and the effectiveness of various measures for its reduction are such a fundamental issue that we should strive for the necessary data to be systematically monitored over the long term, i.e. without depending on the current objectives and capabilities of individual research institutes. Such a solution is supported by the fact that all data is now processed electronically, and the implementation of this type of analysis is therefore a question of a merely technical nature. We believe that information on the effectiveness of selected sanctions could become a standard part of criminal justice statistics in the future.

At the same time, however, the study showed that connecting the effectiveness of criminal policy with simply finding “effective sanctions” is impossible. The impact of criminal justice on the criminal careers of convicted offenders is limited and the decisive factors in terms of recidivism or desistance are outside its reach, particularly in areas such as employment, housing or family. Criminal policy must therefore be understood as an integral part of social policy, as the true effectiveness of sanctions can only be considered

if they encourage and promote natural positive changes in the lives of offenders, both at an individual and social level.

## REFERENCES

- Bushway, S., Brame, R., & Paternoster, R. (2004). Connecting desistance and recidivism: measuring changes in criminality over the lifespan. In Maruna, S., & Immarigeon, R. *After Crime and Punishment: Pathways to Offender Reintegration*. (pp. 85–101). Cullompton: Willan Publishing.
- Farrington, D. (2008). *Integrated developmental and life-course theories on offending*. London: Transaction Publishers.
- Farrington, D., Coid, J., & Harnett, L. (2006). *Criminal careers up to age 50 and life success up to age 48: new findings from the Cambridge Study in Delinquent Development*. London: Home Office.
- Grivna, T., Scheinost, M., & Zoubková, I. (2014). *Kriminologie*. Praha: Wolters Kluwer.
- Israel, M., & Chui, W. H. (2006). If 'something works' is the answer, what is the question? Supporting pluralist evaluation in community corrections in the United Kingdom. *European Journal of Criminology*, 3(2), 181–200.
- King, S. (2014). *Desistance transitions and the impact of probation*. London: Routledge.
- Kubrin, C., Stucky, T., & Krohn, M. (2009). *Researching Theories of Crime and Deviance*. Oxford: Oxford University Press.
- Langan, P., & Levin, D. (2002). Recidivism of Prisoners Released in 1994. *Federal Sentencing Reporter*, 15(1), 58–65.
- Lloyd, C., Mair, G., & Hough, M. (1994). *Explaining reconviction rate: A critical analysis*. London: Home Office.
- Marešová, A., Blatníková, Š., Kotulan, P., Martinková, M., Štěchová, M., & Tamchyna, M. (2011). *Kriminální recidiva a recidivisté: charakteristika, projevy, možnosti trestní justice*. Praha: IKSP.
- McNeill, F. (2000). Defining effective probation: frontline perspectives. *The Howard Journal of Criminal Justice*, 39(4), 382–397.
- Merrington, S., & Stanley, S. (2007). Effectiveness: who counts what?. In Gelsthorpe, L., & Morgan, R. *Handbook of Probation*. (pp. 428–458). Cullompton: Willan Publishing.
- Newburn, T. (2007). *Criminology*. Cullompton: Willan Publishing.
- Novotný, O., & Zapletal, J. (2001). *Kriminologie*. Praha: Eurolex Bohemia.
- Roberts, J., & Hough, M. (2005). *Understanding public attitudes to criminal justice*. Maidenhead: Open University Press.
- Rozum, J., Kotulan, P., Luptáková, M., Scheinost, M., Tomášek, J., & Špejra, M. (2010). *Uplatnění mediace v systému trestní justice II*. Praha: IKSP.
- Rozum, J., Kotulan, P., Špejra, M., & Tomášek, J. (2011). *Probační programy pro mladistvé*. Praha: IKSP.
- Rozum, J., Kotulan, P., & Tomášek, J. (2008). *Účinnost dohledu u osob podmíněně propuštěných*. Praha: IKSP.
- SCCJR. (2012). *Reducing Reoffending: Review of Selected Countries*. Glasgow: The Scottish Centre for Crime and Justice Research.
- Scheinost, M., Háková, L., Rozum, J., Tomášek, J., & Vlach, J. (2014). *Sankční politika pohledem praxe*. Praha: Institut pro kriminologii a sociální prevenci.
- Scheinost, M., Rozum, J., Háková, L., Tomášek, J., & Vlach, J. (2015). *Trestní sankce – uplatňování, mediální prezentace a recidiva*. Praha: IKSP.
- Soothill, K., Fitzpatrick, C., & Francie, B. (2009). *Understanding Criminal Careers*. Cullompton: Willan Publishing.
- Tomášek, J. (2010). *Úvod do kriminologie – jak studovat zločin*. Praha: Grada.

---

## LIFE SATISFACTION AND HAPPINESS: DISCUSSING THE IMPACT OF FEAR OF CRIME AND VICTIMIZATION<sup>1</sup>

EVA KRULICHOVÁ

Institute of Sociology of the Czech Academy of Sciences

E-mail: eva.krulichova@soc.cas.cz

### ABSTRACT

Subjective well-being is usually studied with respect to marital and occupational status, income or subjective health. Conversely, research examining the relationship between this phenomenon and crime related factors is still relatively limited. This study therefore aims to extend the current knowledge in this area. Using data from the fifth wave of the European Social Survey for the Czech Republic, in which 2386 respondents participated, we conduct a hierarchical regression analysis to find out to what extent victimization experience and fear of crime influence life satisfaction and happiness of Czechs. The results of the analysis reveal a direct relationship between fear of crime and subjective well-being. On the contrary, victimization affects life satisfaction and happiness indirectly via the fear of crime. Surprisingly, a decrease in life satisfaction is greater for fearful men than fearful women, whereas there are no gender differences regarding the fear of crime – happiness link.

**Key words:** fear of crime; victimization; subjective well-being; gender differences; ESS R5

### Introduction

While research on fear of crime usually concentrates on causes of this phenomenon, less attention is paid to its consequences for individuals as well as for the whole society. It may especially be due to the fact that in most cases we operate with a cross-sectional data where identifying causal links is rather questionable. It is, however, confirmed by a number of authors (Garofalo, 1981; Chanley, Rudolph, & Rahn, 2000; Jackson & Bradford, 2009; Jackson, Bradford, Hohl, & Farrall, 2009; Jackson & Stafford, 2009; Liska, Sanchirico, & Reed, 1988; Williams, Singh, & Singh, 1994) that fear of crime can lead to various social problems ranging from lower interpersonal and institutional trust to change in behavioral patterns and lifestyle or worse integration into the society.

Recently, a growing interest has also been paid to the crime related determinants of subjective well-being. This phenomenon is, however, in majority of cases studied with respect to marital and occupational status, income or subjective health (Abdel-Khalek, 2006; Diener, Suh, Lucas, & Smith, 1999; Hamplová, 2004, 2006, 2015; Stack & Eshle-

---

<sup>1</sup> This text was funded by the Programme of Support of Perspective Human Resources of the Czech Academy of Sciences and the Ministry of Education, Youth and Sports of the Czech Republic, grant project no. LM2015066.

man, 1998; Šolcová & Kebza, 2005) while examination of factors such as victimization experience or fear of crime is limited and predominantly concentrates on western countries (Cohen, 2008; Hanslmaier, 2013; Michalos & Zumbo, 2000; Staubli, Killias, & Frey, 2014) or developing and newly industrialized countries of Africa (Davies & Hinks, 2010; Møller, 2005; Powdthavee, 2005). Moreover, the measurement of well-being is often a subject of debates. Indicators of life satisfaction and happiness as a proxy of subjective well-being are frequently used interchangeably, since both measures seem to be highly correlated and influenced by similar factors (Clark & Senik, 2011). Nevertheless, the evidence also exists that they present distinct concepts (Diener & Lucas, 2000; Kim & Hatfield, 2004; Peiró, 2006) and should be measured separately as two dimensions of subjective well-being.

Using data from the European Social Survey Round 5 (ESS R5) this article therefore examines the association between life satisfaction, happiness, as two separate indicators of subjective well-being, fear of crime and victimization in the Czech Republic.

### **Defining and measuring subjective well-being, fear of crime and victimization**

Subjective well-being is currently regarded as a multidimensional concept (Diener et al., 1999; Ryan & Deci, 2001) which reflects the assessment of various areas of human life, whether it is family, work, friends, health, self-esteem, leisure, etc. It is therefore not surprising that to this day no clear and unequivocal concept of what subjective well-being really means has been adopted by the academic community (Hamplová, 2006). According to Deci and Ryan (2001), current research on subjective well-being is derived from two broad perspectives – hedonic and eudaimonic. While the first focuses on happiness and defines subjective well-being in terms of pleasure attainment and pain avoidance, the other emphasizes the role of self-realization and defines well-being as a state when an individual is fully functional. Diener (2000) in turn says that subjective well-being is based on both affective and cognitive evaluations of people's life and defines it as a predominance of positive over negative emotions, engagement in exciting activities that brings pleasure and high life satisfaction.

Research studies focusing on subjective well-being usually ask respondents whether they are generally satisfied with their lives or whether they consider their lives to be happy. According to some authors (Clark & Senik, 2011), happiness and life satisfaction are strongly correlated. Others argue that while the first is based on individual emotions, the second refers to the cognitive, i.e. rational, evaluation of life (Diener & Lucas, 2000; Hamplová, 2006; Kim & Hatfield, 2004). In this article we will therefore deal with the two aforementioned phenomena and their relationship with crime related factors such as victimization and fear of crime.

There is also an ongoing debate about the way of identifying and measuring fear of crime (Ferraro, 1995; Ferraro & LaGrange, 1987; Moravcová, 2014; Rountree & Land, 1996). While at the beginning of the research on fear of crime it was measured by a single indicator asking respondents about their feeling of safety in a neighbourhood (Garofalo, 1979; Warr, 2000), Ferraro and LaGrange (1987, p. 72; see also Ferraro 1995, p. 23) de-



defined fear of crime as “a negative emotional reaction to crime or the symbols associated with crime” and came with so called “emotional” indicators asking explicitly about fear of wide range of criminal offences. This approach is favourable, however, problematic with respect to a limited extent of questionnaires and questions that can be posed to respondents. Since this study uses data from an international research which, in addition to fear of crime, is also focused on other social issues, fear of crime is measured by only two indicators that ask respondents if they fear of their home being burgled and becoming a victim of violent crime.

Problems concerning operationalization of victimization experience and identification of victims can also be observed (Agnew, 1985). For example, victimization surveys usually concentrate solely on recent victimization (in the last 2 or 5 years) and thus people who have been victimized many years ago are classified as non-victims. Some authors (e.g. Pain, 1995), however, argue that certain social groups (especially women and seniors) can be affected by victimization for a relatively long time. In this study the victimization indicator asks respondents if they or a member of their household have been a victim of burglary or assault (which corresponds with questions on fear of crime) in the last 5 years.

### **Who is happy and satisfied?**

Life satisfaction and happiness are most often associated with marital and occupational status, income or subjective health. Evidence exists that those, who are married, have a good and stable job, a sufficient amount of money and feel healthy, declare higher level of life satisfaction and happiness than those who live alone without partner, are unemployed, lack of finances or suffer from some disease (Diener et al., 1999; Hamplová, 2004, 2006, 2015; Stack & Eshleman, 1998; Zimmermann & Easterlin, 2006).

With respect to marital status, it is argued that married people benefit from a close relationship with their partners who provide them with emotional support and protection. They are also considered healthier, because they encourage each other to take care of themselves and wealthier, because they manage their finances together (Stack & Eshleman, 1998). Although it might seem that one of the factors leading to greater life satisfaction and happiness is money, the relationship between mentioned phenomena is more complex (Ahuvia, 2008; Becchetti & Rossetti, 2009; Blanchflower & Oswald, 2004; Diener & Oishi, 2000; Easterlin, 2001). For example, Ahuvia (2008) points to the fact that once basic needs are met, the effect of income on happiness significantly weakens. Moreover, Ferrer-i-Carbonell (2005) finds out that income of a reference group is about as important as the own income. He confirms that higher the individual's income is in comparison with the income of the reference group the happier the individual is. On the other hand, if there is an increase in both own and reference group's income, the changes in happiness are almost negligible. Given a relatively weak effect of income on well-being, the role of unemployment is often discussed. According to a number of studies (Frey & Stutzer, 2002a, 2002b; Winkelmann & Winkelmann, 1998) those who are employed declare higher life satisfaction and happiness than those who have lost their job and this relationship remains stable even though the level of income is controlled for. On the

contrary, women on maternity leave or housewives are found to be as happy and satisfied as those with a job (Beja, 2014). According to Abdel-Khalek (2006), however, the main factor influencing happiness is mental health (while physical health has no effect). In line with this finding, Diener et al. (1999) point to the fact that subjective well-being is rather dependent on individual perception (assessment) of illness and ability to cope with it. Someone who is severely ill can thus adapt to his condition and live a satisfied life whereas someone else, whose condition is not so serious but fail to adapt to it, can declare to be unhappy and dissatisfied.

### The effect of fear of crime and victimization

As already mentioned, the research focusing on the relationship between life satisfaction, happiness and crime related phenomena such as victimization or fear of crime is relatively scarce and its findings are often mixed. With respect to victimization experience, Hanslmaier (2013) points to the significant effect of victimization on life satisfaction. Staubli, Killias, and Frey (2014) examine the influence of various types of victimization on life satisfaction and conclude that there is a negative association between life satisfaction and crimes against property such as theft, burglary, consumer fraud as well as crimes against person such as assault, threat, robbery or sexual offences (Møller, 2005; Powdthavee, 2005). Cohen (2008) finds a relatively strong relationship between fear of crime and subjective well-being only with respect to burglary while robbery remains nonsignificant. On the contrary, Michalos and Zumbo (2000) find some support for victimization – life satisfaction, happiness and quality of life link only in the bivariate analysis, while in the multivariate regression, where measures of satisfaction with family life, health, self-esteem etc. were added, it reveals to be nonsignificant. Similarly, Moore (2006) reports no effect of victimization on happiness; however, fear of crime decreases it significantly. According to Hanslmaier (2013) victimization could influence happiness vicariously right through the fear of crime. Nevertheless, his data show a direct effect of both victimization and fear of crime on life satisfaction. In turn Adams and Serpe (2000) found that fear of crime affects life satisfaction indirectly through decreasing people's sense of control over their lives.

Further, gender differences in the fear of crime – subjective well-being link have not been examined in depth. We are not aware of any study which would discuss different impact of fear of crime on life satisfaction and happiness among women and men in Europe. The only study which partly deals with such gender differences is the one by Davies and Hinks (2010) who analyze data from Malawi. Authors find out that for men both victimization and feeling unsafe negatively affect life satisfaction while for women only feeling unsafe plays an important role. In line with these results and with respect to a higher level of fear of crime among women (see below) and the fact that both fear of crime and subjective well-being are considered to be largely based on emotions, we would expect that among women fear of crime could enhance dissatisfaction and unhappiness to a greater extent than among men. Therefore an interaction term between fear of crime and gender is also examined in the subsequent analysis.

## **Correlates of fear of crime**

The relationship between fear of crime and victimization has been confirmed by a number of studies (e.g. Andreescu, 2010; Hanslmaier, 2013; Skogan & Maxfield, 1981; Tseloni & Zarafonitou, 2008). The results of such studies suggest that people who became victims of crime or those who were victimized indirectly by knowing someone (friends, relatives, colleagues, neighbours etc.) who experienced victimization fear crime to a greater extent than those who have never come into contact with crime. Some authors (Ferraro, 1995; Garofalo, 1979; Liska et al., 1988; Pechačová, Hraba, Bao, & Lorenz, 1998; Wanner & Caputo, 1987), however, find only weak, negative or no association between these phenomena. Since there exists a discrepancy between fear of crime and victimization, fears of certain social groups were labelled as “paradoxical”. For example, women are consistently found to declare greater fear of crime than men (Box, Hale, & Andrews, 1988; Jackson & Stafford, 2009; LaGrange & Ferraro, 1989; Russo, Roccato, & Vieno, 2013; Tseloni & Zarafonitou, 2008) although it is the men who are, according to official police statistics, more frequently victimized (Hale, 1996). It is assumed that women are in general more vulnerable to crime and sensitive to potential risk of victimization. This vulnerability or sensitivity is likely to origin in the process of socialization during which women are learned to be fearful and take care while men are encouraged to be brave and take risk (Garofalo, 1979; Sacco, 1990). With respect to age and education the evidence is, however, mixed. While some studies indicate older and educated people to be more fearful (Box et al., 1988; Gainey, Alper, & Chappell, 2011; Jackson & Stafford, 2009; Pechačová et al., 1998; Smith & Hill, 1991b; Tuček, 2013; Warr, 1984; Yin, 1980), other declare higher levels of fear among youths and those with lower education (Ferraro & LaGrange, 1992; Chadee & Ditton, 2003; Jackson, 2009; LaGrange & Ferraro, 1989; Smith & Hill, 1991a; Weinrath & Gartrell, 1996). It also turns out that fear of crime is not linked solely to characteristics of individuals but also to the environment, in which they live and people that surround them. According to Lewis and Salem (1986) or Skogan and Maxfield (1981) it is higher level of physical (vandalism, abandoned cars and buildings, graffiti or litters) and social (rowdy neighbours, homeless and drunks, unsupervised youths) disorganization which increases fear of crime among residents of a certain area (cf. LaGrange, Ferraro, & Supancic, 1992). This is also the reason why fear of crime is primarily and constantly associated with large cities and agglomerations, while in rural areas people feel safe and usually declare minimal fear of crime (Sacco, 1985).

## **Research hypotheses and analytic strategy**

The current study attempts to analyse the relationship between life satisfaction, happiness, fear of crime and victimization. This area of research remains relatively unexplored given the fact that subjective well-being is perceived to be predominantly influenced by other factors, such as marital and occupational status, income or subjective health condition. First, this study explores the relationship between fear of crime and victimization while controlling for gender, age, education and place of residence. Second it concen-

trates on life satisfaction and happiness and its association with mentioned crime related phenomena. We use a hierarchical regression analysis to test our hypotheses.

Hypothesis 1: Those who became victims of crime fear crime to a greater extent than those who have no victimization experience. Moreover, it is women and those living in bigger cities that fear crime more than men and those living in smaller cities or countryside.

Hypothesis 2: Fear of crime is associated with dissatisfaction with life and unhappiness. Individual victimization experience influence well-being indicators indirectly right through the fear of crime.

Hypothesis 3: The effect of fear of crime on subjective well-being is greater among women, i.e. the relationship between fear of crime, life satisfaction and happiness is gender specific.

Hypothesis 4: The relationship between indicators of well-being and fear of crime remains significant although variables such as marital and occupational status or subjective health are controlled for.

## Data

The study is based on data of the European Social Survey Round 5 (ESS R5)<sup>2</sup> which contains indicators measuring subjective well-being as well as victimization experience and fear of crime. In the Czech Republic, the data were collected at the beginning of 2011 by multistage stratified random sampling and total of 2386 respondents took part in the survey. During the analysis, we use a weight (d-weight) to correct for unequal selection probabilities of the individuals in analyzed countries. The ESS R5 is a part of an on-going European Social Survey (ESS) project in which approximately 30 countries currently participate. This biennial international survey was first conducted in 2002/2003. Its goal is to provide long-term comparative research that meets the highest methodological standards and provides information on values, attitudes, behaviour, socio-demographic and socio-structural characteristics of European nations (Jowell et al., 2007).

## Measures

Table 1 presents variables included in the analysis. There are two indicators of subjective well-being – life satisfaction and happiness (*All things considered, how satisfied are you with your life as a whole nowadays?; Taking all things together, how happy would you say you are?*). Both variables are measured on a 11-item scale ranging from extremely dissatisfied / unhappy (coded '0') to extremely satisfied / happy (coded '10').

Fear of crime is measured as a mean of two items asking respondents on a 4-item scale, ranging from '1' = all or most of the time to '4' = never, how often they worry about being burgled or becoming a victim of violent crime (*How often, if at all, do you worry about your home being burgled?; How often, if at all, do you worry about becoming a victim of*

---

<sup>2</sup> ESS Round 5: European Social Survey Round 5 Data (2010). Data file edition 3.2. Norwegian Social Science Data Services, Norway – Data Archive and distributor of ESS data for ESS ERIC.

**Table 1:** Descriptive statistics and associations between variables

	Mean (SD)	%	Range	Effect size <sup>b</sup>		
				(A)	(B)	(C)
(A) Life satisfaction	6.41 (2.18)		0–10			
(B) Happiness	6.70 (1.91)		0–10	0.72***		
(C) Fear of crime <sup>a</sup>	1.27 (0.23)		1–2	-0.15***	-0.15***	
Victimization (1 = yes)	0.12 (0.32)		0–1	-0.21***	-0.20***	0.79***
Gender (1 = male)	0.51 (0.50)		0–1	0.05	0.06	-0.38***
Age	44.01 (17.20)		15–92	-0.14***	-0.17***	0.10***
Education			1–4	0.16***	0.15***	0.06
<i>primary</i>		14.6				
<i>secondary (lower)</i>		40.1				
<i>secondary (upper)</i>		34.5				
<i>tertiary</i>		10.8				
Residence			1–3	0.04	0.06*	0.10***
<i>big city, suburbs</i>		31.5				
<i>medium, small city</i>		40.9				
<i>countryside</i>		27.6				
Marital status			1–3	0.02	0.03	0.06*
<i>married</i>		50.8				
<i>unmarried with partner</i>		7.9				
<i>unmarried without partner</i>		41.3				
Occupational status			1–5	0.19***	0.23***	0.09**
<i>employed</i>		54.7				
<i>unemployed</i>		6.3				
<i>retired</i>		21.1				
<i>housework</i>		4.9				
<i>student</i>		13.0				
Subjective health			1–3	0.34***	0.33***	0.19***
<i>good</i>		63.5				
<i>fair</i>		26.2				
<i>bad</i>		10.4				

<sup>a</sup> Fear of crime square rooted

<sup>b</sup> Effect size evaluated by Pearson's r (scale variables), Cohen's d (binary factors) – statistical significance based on t-test, or Eta (factors with multiple levels) – statistical significance based on F test.

\*\*\*p < 0.001, \*\*p < 0.01, \*p < 0.05

Source: ESS R5

*violent crime?*). For the sake of easier interpretation, the final scale was inverted so that '4' = all or most of the time. To assess victimization experience the respondents were asked if they or any member of their household became a victim of burglary or assault in the last five years (*Have you or a member of your household been the victim of a burglary or assault in the last 5 years?*). This binary variable is coded as '1' = yes and '0' = no.

Given that marital and occupational status as well as subjective health are perceived as strong correlates of personal well-being, we test the significance of life satisfaction, happiness and fear of crime relationship while including the mentioned variables in the analysis. Marital status is a combination of two questions measuring formal marital status and the fact that an individual currently lives with a partner. Three categories are created: '1' = married, '2' = unmarried with partner, '3' = unmarried without partner. Rather than income, which proved to be a relatively weak predictor of subjective well-being, we control for occupational status of an individual with answer categories '1' = employed, '2' = unemployed, '3' = retired, '4' = housework, '5' = student. Finally, subjective health (*How is your health in general?*) is measured on 5-item scale with answer categories '1' = very good, '2' = good, '3' = fair, '4' = bad and '5' = very bad. For the sake of the regression analysis we recoded the variable into three categories so that answers "very good" and "good" were merged to "good" (coded as '1') and "very bad" and "bad" to "bad" (coded as '3').

As control variables we include gender, age, education and place of residence. Gender is a binary variable where '1' = male and '0' = female. Age is measured as a scale ranging from 15 to 92 years. Education is divided into four categories – primary, lower secondary (vocational training, apprenticeship), upper secondary (grammar school) and tertiary (university). Place of residence is relevant especially with respect to fear of crime as the level of social disorganization, which is usually associated with large cities and agglomerations, plays an important role in influencing individual fear of potential victimization. Since the ESS R5 does not include indicators on social disorganization, we decided to, at least, distinguish between different areas where respondents live, i.e. '1' = big city, suburbs, '2' = medium, small city, '3' = countryside.

## Results

Table 1 shows descriptive statistics and results of the bivariate analysis. As expected victimization experience plays an important role in explaining fear of crime. Those who became victims of crime fear crime more than their counterparts. Further, women and those who live in bigger cities and agglomerations fear more than men and those living in the countryside. The relationship between indicators of subjective well-being and fear of crime is statistically significant. Those who fear crime are less satisfied and happy than those whose fear of crime is relatively low. The strength of the relationship is, however, rather weak. Surprisingly, the bivariate analysis shows no association between our dependent variables (life satisfaction and happiness) and marital status. This is, however, due to the fact that there are also widowed or divorced among "unmarried" and we do not control for the age of a respondent at this stage of analysis. The significant relationship between the mentioned variables thus reveals in the subsequent regression analysis. On the other hand, we find a moderate relationship between subjective well-being, occupa-

tional status and subjective health. Unemployed and those who assess their health as bad declare to be less satisfied and happy than their counterparts. Bad subjective health is also associated with higher fear of crime, the strength of the relationship is, however, rather weak. Finally, both indicators of subjective well-being are mutually correlated (Pearson = 0.72).

Factors influencing the level of fear of crime are showed in Table 2. Victimization experience relevels to be a strong predictor of fear of crime ( $\beta = 0.245$ ) even though we control for respondent's gender, age, education and place of residence. By entering victimization in Model 2, the adjusted  $R^2$  increases about 6 percentage points. Victims of crime declare substantially higher fear of crime than those without any criminal experience. Furthermore, comparing to their counterparts, fear of crime is characteristic for women and residents of bigger cities as well as for older people. On the other hand, education turns out to be nonsignificant. Based on these findings, which are in accordance with a number of studies exploring fear of crime and its correlates (e.g. Andreescu, 2010; Hanslmaier, 2013; Jackson, 2009; Russo, Roccato, & Vieno, 2013; Tseloni & Zarafonitou, 2008 etc.), we can corroborate the Hypothesis 1.

**Table 2:** Hierarchical OLS regression for fear of crime

Variable	Model 1			Model 2		
	b		$\beta$	b		$\beta$
Constant	1.216	***		1.202	***	
Gender (1 = men)	-0.084	***	-0.182	-0.088	***	-0.190
Age	0.001	***	0.095	0.001	***	0.100
Education (ref. primary)						
<i>secondary (lower)</i>	0.011		0.023	0.010		0.022
<i>secondary (upper)</i>	0.023		0.048	0.021		0.044
<b>tertiary</b>	0.024		0.033	0.017		0.023
Residence (ref. countryside)						
<i>big city. suburbs</i>	0.059	***	0.119	0.042	***	0.085
<i>medium. small city</i>	0.024	*	0.051	0.023	*	0.050
Victimization (1 = yes)				0.176	***	0.245
Adjusted $R^2$	0.053			0.111		

N = 2305, \*\*\*p < 0.001, \*\*p < 0.01, \*p < 0.05  
Source: ESS R5

Finally, we examine the relationship between well-being indicators, fear of crime and victimization (Table 3). In Model 1 we enter variables influencing fear of crime including victimization (see Table 2). Model 2 adds fear of crime and looks at its unique contribution to explanation of our dependent variables. Last, Model 3 tests significance of fear of crime and interaction term between fear of crime and gender, while taking into consideration marital and occupational status and subjective health.

Gender, age, education, place of residence and victimization influence life satisfaction and happiness in a similar way (Model 1). While there is no effect of gender, younger and educated people as well as those living in smaller cities and countryside are significantly more satisfied and happier than seniors, people with lower education and residents of big cities and suburbs. Moreover, there is a negative, although relatively weak, relationship between subjective well-being and victimization. Those who became victims of crime (whether directly or indirectly) declare lower levels of life satisfaction and happiness than those who have not been victimized.

Further, we test the relationship between subjective well-being and fear of crime (Model 2). Although the adjusted R<sup>2</sup> suggests that fear of crime explains only a small part of variance of our dependent variables, the relationship is statistically significant and shows that those who fear crime are less satisfied ( $\beta = -0.137$ ) and happy ( $\beta = -0.130$ ) than those whose fears are at low levels. When controlling the fear of crime, victimization turns out to be nonsignificant (Hypothesis 2). This result is in accordance with findings of Moore (2006) who also examines the ESS data. In this regard, Hanslmaier (2013) proposes that victimization could influence life satisfaction indirectly right through the fear of crime (although his data also find a direct effect), which is likely due to the fact that victimization experience is a relatively strong predictor of fear of crime.

In the last model (Model 3) the interaction term between fear of crime and dependent variables is entered as well as factors that are considered to be strongly associated with subjective well-being. Interestingly, the interaction is significant with respect to life satisfaction ( $\beta = -0.274$ ) while in the case of happiness it is not. Moreover, its direction differs from our expectations (Hypothesis 3) – the effect of fear of crime on decrease in life satisfaction is greater for men. In other words, life satisfaction of fearful men decreases more rapidly than life satisfaction of fearful women. At last, fear of crime remains significant (although relatively weak) correlate of life satisfaction and happiness even though the variables such as marital and occupational status or subjective health are controlled for. We can thus corroborate the Hypothesis 4. As expected, the data show that those who are married are more satisfied and happier than those who live without a partner. Compared to married people, life satisfaction and happiness also slightly decrease for those who do not live within marriage but have a partner. As for occupational status, those who are employed declare higher satisfaction and happiness than those who are unemployed, but lower than those who are retired or study. In the case of life satisfaction, it seems there is no difference between employees and those staying at home, which is in accordance with other research (e.g. Beja, 2014). To conclude, subjective well-being is strongly associated with better health condition – those who feel healthy are more satisfied and happier than their counterparts.

## Discussion

Currently, there is a wide range of studies dealing with subjective well-being and its correlates. Nevertheless, among factors considered in such studies, we can usually find marital and occupational status, income or subjective health. On the other hand, research discussing the relationship between subjective well-being and crime related phenomena



**Table 3:** Hierarchical OLS regression for life satisfaction and happiness

Variable	Life satisfaction						Happiness					
	Model 1		Model 2		Model 3		Model 1		Model 2		Model 3	
	b	β	b	β	b	β	b	β	b	β	b	β
Constant	7.206 ***		8.733 ***		5.476 ***		7.738 ***		9.006 ***		6.507 ***	
Gender (1 = men)	-0.061	-0.014	-0.173	-0.040	1.046 *	0.244	-0.083	-0.022	-0.176 *	-0.047	0.218	0.058
Age	-0.017 ***	-0.134 ***	-0.015 ***	-0.120 ***	-0.004	-0.032	-0.019 ***	-0.174 ***	-0.018 ***	-0.162 ***	-0.008 *	-0.075
Education (ref. primary)												
secondary (lower)	-0.136	-0.031	-0.128	-0.029	-0.126	-0.029	-0.187	-0.049	-0.180	-0.047	-0.171	-0.045
secondary (upper)	0.426 **	0.095	0.450 **	0.100 **	0.313 *	0.070	0.320 *	0.082	0.339 **	0.087	0.229	0.058
tertiary	0.786 ***	0.116	0.800 ***	0.118	0.585 **	0.086	0.518 **	0.087	0.529 **	0.089	0.348 *	0.059
Residence (ref. countryside)												
big city. suburbs	-0.267 *	-0.058	-0.208	-0.045	-0.239 *	-0.052	-0.293 **	-0.073 **	-0.244 *	-0.061 *	-0.258 **	-0.064
medium. small city	-0.111	-0.026	-0.082	-0.019	-0.145	-0.033	-0.227 *	-0.060 *	-0.203 *	-0.053 *	-0.245 **	-0.065
Victimization (1 = yes)	-0.373 **	-0.056	-0.143	-0.021	0.072	0.011	-0.417 **	-0.071 **	-0.226	-0.038	-0.047	-0.008
Fear of crime			-1.267 ***	-0.137 ***	-0.455	-0.049			-1.052 ***	-0.130 ***	-0.608 **	-0.075
Fear of crime X gender					-0.923 *	-0.274					-0.265	-0.090
Marital status (ref. married)												
single with partner					-0.384 *	-0.048					-0.352 *	-0.051
single without partner					-0.458 ***	-0.106					-0.461 ***	-0.122
Occupational status (ref. employed)												
unemployed					-0.916 ***	-0.104					-0.807 ***	-0.105
retired					0.596 ***	0.113					0.537 ***	0.117
housework					0.151	0.015					0.362 *	0.042
student					0.578 **	0.090					0.576 ***	0.103
Subjective health (ref. bad)												
good					1.382 ***	0.283					1.201 ***	0.282
fair					2.294 ***	0.512					1.992 ***	0.509
Adjusted R2	0.044		0.060		0.163		0.059		0.074		0.180	

N = 2174, \*\*\*p < 0.001, \*\*p < 0.01, \*p < 0.05.  
Source: ESS R5

is relatively limited. Hence, the aim of the study was to broaden the knowledge in this regard and find out to what degree the victimization experience and fear of crime contribute to explanation of life satisfaction and happiness among residents of the Czech Republic.

To our knowledge, there are two main limitations in the study. First, subjective well-being is measured by two simple indicators asking respondents about their life satisfaction and happiness. These are however considered to be surprisingly valid and reliable measures of mentioned phenomena (Diener & Lucas, 2000). Next, fear of crime is measured as a mean of two questions focusing on fear of burglary and violent crime (cf. Visser, Scholte, & Scheepers, 2013) while larger batteries of questions measuring fear of different types of offences would be more appropriate (see Ferraro & LaGrange, 1992; LaGrange & Ferraro, 1989). Similarly, and in accordance with the fear of crime measures, victimization indicator only takes into account robbery, burglary and assault. In our opinion, however, it is unlikely that this limitation fundamentally alters the results of our analysis. Second, the cross-sectional nature of the data does not allow us to evaluate causal direction of the analysed relationships. For example, whereas studies mentioned above analyse the influence of victimization and fear of crime on subjective well-being, Andreescu (2010) considers general happiness as one of factors affecting fear of crime. A longitudinal study is therefore needed to test possible causal links between mentioned phenomena.

With respect to victimization, we find it has rather indirect impact on subjective well-being. While in the initial regression model the victimization experience decreases life satisfaction and happiness, when controlling for fear of crime, the relationship between victimization and subjective well-being indicators turns out to be nonsignificant. The effect of victimization experience is therefore likely transmitted by fear of crime (cf. Hanslmaier, 2013; Moore, 2006).

Data suggest that fear of crime decreases subjective well-being. Although this relationship is relatively weak, it remains significant even though factors such as marital and occupational status or subjective health are controlled for. Moreover, fear of crime – life satisfaction link seems to be gender specific. The effect of fear of crime on decrease in life satisfaction is greater for men. Conversely, there are no gender differences with respect to happiness. How can we interpret such finding? Since men are constantly less fearful than women, we argue that actual fear of crime may induce greater decrease in their life satisfaction than it would induce among their counterparts. In other words, majority of men does not fear crime, nevertheless, once they do, their life satisfaction significantly lowers, even more than among women. The question remains why there are no gender differences with respect to happiness. Partial explanation for this result could be hidden in the fact that life satisfaction is rather a cognitive-based indicator while the assessment of happiness is, similarly to fear of crime, based on emotions (Diener & Lucas, 2000). Nevertheless, further research on gender differences in evaluation of life satisfaction and happiness with respect to fear of crime is needed to explore this idea in more depth.

Finally, although there are some differences in factors influencing both dependent variables, the results of our analysis further support the idea of interdependence between life satisfaction and happiness. Those who are satisfied with their lives are likely to be happy and vice versa. Among more satisfied and happier people we can find those who live in a strong marital relationship, have a stable job, enjoy good health as well as those who do not suffer from victimization and are not plagued by fears of crime.

## REFERENCES

- Abdel-Khalek, A. M. (2006). Happiness, health, and religiosity: Significant relations. *Mental Health, Religion & Culture*, 9(1), 85–97. <http://doi.org/10.1080/13694670500040625>
- Adams, R. E., & Serpe, R. T. (2000). Social Integration, Fear of Crime, and Life Satisfaction. *Sociological Perspectives*, 43(4), 605–629. <http://doi.org/10.2307/1389550>
- Agnew, R. S. (1985). Neutralizing the Impact of Crime. *Criminal Justice and Behavior*, 12(2), 221–239. <http://doi.org/10.1177/0093854885012002005>
- Ahuvia, A. (2008). If money doesn't make us happy, why do we act as if it does? *Journal of Economic Psychology*, 29(4), 491–507. <http://doi.org/10.1016/j.joep.2007.11.005>
- Andresescu, V. (2010). Victimization and fear of crime in Romania and Hungary: a comparative analysis. *Revista Romana de Sociologie*, 21(3–4), 163–183.
- Becchetti, L., & Rossetti, F. (2009). When money does not buy happiness: The case of “frustrated achievers.” *The Journal of Socio-Economics*, 38(1), 159–167. <http://doi.org/10.1016/j.soec.2008.08.009>
- Beja, E. L. (2014). Who is Happier: Housewife or Working Wife? *Applied Research in Quality of Life*, 9(2), 157–177. <http://doi.org/10.1007/s11482-013-9235-9>
- Blanchflower, D. G., & Oswald, A. J. (2004). Well-being over time in Britain and the USA. *Journal of Public Economics*, 88(7), 1359–1386. [http://doi.org/10.1016/S0047-2727\(02\)00168-8](http://doi.org/10.1016/S0047-2727(02)00168-8)
- Box, S., Hale, C., & Andrews, G. (1988). Explaining Fear of Crime. *British Journal of Criminology*, 28(3), 340–356.
- Clark, E., & Senik, C. (2011). Is Happiness Different From Flourishing? Cross-Country Evidence from the ESS. *Revue D'économie Politique*, 121(1), 17. <http://doi.org/10.3917/redp.211.0017>
- Cohen, M. A. (2008). The Effect of Crime on Life Satisfaction. *The Journal of Legal Studies*, 37(S2), 325–353. <http://doi.org/10.1086/588220>
- Davies, S., & Hinks, T. (2010). Crime and Happiness Amongst Heads of Households in Malawi. *Journal of Happiness Studies*, 11(4), 457–476. <http://doi.org/10.1007/s10902-009-9152-7>
- Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist*, 55(1), 34–43.
- Diener, E., & Lucas, R. E. (2000). Subjective Emotional Well-being. In M. Lewis & J. M. Haviland-Jones (Eds.), *Handbook of emotions* (pp. 325–337). New York: The Guilford Press.
- Diener, E., & Oishi, S. (2000). Money and happiness: Income and subjective well-being across nations. In E. Diener & E. M. Suh (Eds.), *Culture and subjective well-being* (pp. 185–218). Springer.
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125(2), 276–302.
- Easterlin, R. A. (2001). Income and Happiness: Towards a Unified Theory. *The Economic Journal*, 111(473), 465–484. <http://doi.org/10.1111/1468-0297.00646>
- Ferraro, K. F. (1995). *Fear of Crime: Interpreting Victimization Risk*. Albany: State University of New York Press.
- Ferraro, K. F., & LaGrange, R. L. (1987). The Measurement of Fear of Crime. *Sociological Inquiry*, 57(1), 70–97. <http://doi.org/10.1111/j.1475-682X.1987.tb01181.x>
- Ferraro, K. F., & LaGrange, R. L. (1992). Are Older People Most Afraid of Crime? Reconsidering Age Differences in Fear of Victimization. *Journal of Gerontology*, 47(5), 233–244. <http://doi.org/10.1093/geronj/47.5.S233>
- Ferrer-i-Carbonell, A. (2005). Income and well-being: an empirical analysis of the comparison income effect. *Journal of Public Economics*, 89(5–6), 997–1019. <http://doi.org/10.1016/j.jpubeco.2004.06.003>
- Frey, B. S., & Stutzer, A. (2002a). The economics of happiness. *World Economics*, 3(1), 1–17.
- Frey, B. S., & Stutzer, A. (2002b). What can economists learn from happiness research? *Journal of Economic Literature*, 40(2), 402–435.
- Gainey, R., Alper, M., & Chappell, A. T. (2011). Fear of Crime Revisited: Examining the Direct and Indirect Effects of Disorder, Risk Perception, and Social Capital. *American Journal of Criminal Justice*, 36(2), 120–137. <http://doi.org/10.1007/s12103-010-9089-8>
- Garofalo, J. (1979). Victimization and the Fear of Crime. *Journal of Research in Crime and Delinquency*, 16(1), 80–97. <http://doi.org/10.1177/002242787901600107>

- Garofalo, J. (1981). The fear of crime: Causes and consequences. *Journal of Criminal Law and Criminology*, 72(2), 839–857. <http://doi.org/10.2307/1143018>
- Hale, C. (1996). Fear of Crime: A Review of the Literature. *International Review of Victimology*, 4(2), 79–150. <http://doi.org/10.1177/026975809600400201>
- Hamplová, D. (2004). *Životní spokojenost: rodina, práce a další faktory*. Sociologické studie (Vol. 04:06). Praha: Sociologický ústav AV ČR.
- Hamplová, D. (2006). Životní spokojenost, štěstí a rodinný stav v 21 evropských zemích. *Sociologický časopis/Czech Sociological Review*, 42(1), 35–55.
- Hamplová, D. (2015). *Proč potřebujeme rodinu, práci a přátele – Štěstí ze sociologické perspektivy*. Praha: Fortuna Libri.
- Hansmaier, M. (2013). Crime, fear and subjective well-being: How victimization and street crime affect fear and life satisfaction. *European Journal of Criminology*, 10(5), 515–533. <http://doi.org/10.1177/1477370812474545>
- Chadee, D., & Ditton, J. (2003). Are Older People Most Afraid of Crime? Revisiting Ferraro and LaGrange in Trinidad. *British Journal of Criminology*, 43(2), 417–433. <http://doi.org/10.1093/bjc/43.2.417>
- Chanley, V. A., Rudolph, T. J., & Rahn, W. M. (2000). The Origins and Consequences of Public Trust in Government. *Public Opinion Quarterly*, 64(3), 239–256. <http://doi.org/10.1086/317987>
- Jackson, J. (2009). A psychological perspective on vulnerability in the fear of crime. *Psychology, Crime & Law*, 15(4), 365–390. <http://doi.org/10.1080/10683160802275797>
- Jackson, J., & Bradford, B. (2009). Crime, policing and social order: on the expressive nature of public confidence in policing. *The British Journal of Sociology*, 60(3), 493–521. <http://doi.org/10.1111/j.1468-4446.2009.01253.x>
- Jackson, J., Bradford, B., Hohl, K., & Farrall, S. (2009). Does the Fear of Crime Erode Public Confidence in Policing? *Policing*, 3(1), 100–111. <http://doi.org/10.1093/police/pan079>
- Jackson, J., & Stafford, M. (2009). Public Health and Fear of Crime: A Prospective Cohort Study. *British Journal of Criminology*, 49(6), 832–847. <http://doi.org/10.1093/bjc/azp033>
- Kim, J., & Hatfield, E. (2004). Love Types And Subjective Well-Being: A Cross-Cultural Study. *Social Behavior and Personality: An International Journal*, 32(2), 173–182. <http://doi.org/10.2224/sbp.2004.32.2.173>
- LaGrange, R. L., & Ferraro, K. F. (1989). Assessing Age and Gender Differences in Perceived Risk and Fear of Crime. *Criminology*, 27(4), 697–719. <http://doi.org/10.1111/j.1745-9125.1989.tb01051.x>
- LaGrange, R. L., Ferraro, K. F., & Supancic, M. (1992). Perceived Risk and Fear of Crime: Role of Social and Physical Incivilities. *Journal of Research in Crime and Delinquency*, 29(3), 311–334. <http://doi.org/10.1177/0022427892029003004>
- Lewis, D. A., & Salem, G. (1986). *Fear of crime: Incivility and the production of a social problem*. New Brunswick, New Jersey: Transaction Publishers.
- Liska, A. E., Sanchirico, A., & Reed, M. D. (1988). Fear of Crime and Constrained Behavior Specifying and Estimating a Reciprocal Effects Model. *Social Forces*, 66(3), 827–837. <http://doi.org/10.1093/sf/66.3.827>
- Michalos, A. C., & Zumbo, B. D. (2000). Criminal Victimization and the Quality of Life. *Social Indicators Research*, 50(3), 245–295. <http://doi.org/10.1023/A:1006930019814>
- Møller, V. (2005). Resilient or Resigned? Criminal Victimization and Quality of Life in South Africa. *Social Indicators Research*, 72(3), 263–317. <http://doi.org/10.1007/s11205-004-5584-y>
- Moore, S. C. (2006). The value of reducing fear: an analysis using the European Social Survey. *Applied Economics*, 38(1), 115–117. <http://doi.org/10.1080/00036840500368094>
- Moravcová, E. (2014). Indikátory obav z kriminality v českých sociálněvědních výzkumech. *Data a Výzkum*, 8(2). <http://doi.org/10.13060/23362391.2014.127.2.156>
- Pain, R. H. (1995). Elderly Women and Fear of Violent Crime: The Least Likely Victims?: A Reconsideration of the Extent and Nature of Risk. *British Journal of Criminology*, 35(4), 584–598.
- Pechačová, Z., Hraba, J., Bao, W.-N., & Lorenz, F. O. (1998). Pocit ohrožení kriminalitou v České republice/Perceived Risk of Crime in the Czech Republic. *Sociologický časopis/Czech Sociological Review*, 34(2), 205–219.
- Peiró, A. (2006). Happiness, satisfaction and socio-economic conditions: Some international evidence. *The Journal of Socio-Economics*, 35(2), 348–365. <http://doi.org/10.1016/j.soc.2005.11.042>

- Powdthavee, N. (2005). Unhappiness and crime: Evidence from South Africa. *Economica*, 72(287), 531–547. <http://doi.org/10.1111/j.0013-0427.2005.00429.x>
- Rountree, P. W., & Land, K. C. (1996). Perceived Risk versus Fear of Crime: Empirical Evidence of Conceptually Distinct Reactions in Survey Data. *Social Forces*, 74(4), 1353–1376. <http://doi.org/10.1093/sf/74.4.1353>
- Russo, S., Roccatò, M., & Vieno, A. (2013). Criminal victimization and crime risk perception: A multi-level longitudinal study. *Social Indicators Research*, 112, 535–548. <http://doi.org/10.1007/s11205-012-0050-8>
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52, 141–166. <http://doi.org/10.1146/annurev.psych.52.1.141>
- Sacco, V. F. (1985). City size and perceptions of crime. *Canadian Journal of Sociology/Cahiers Canadiens de Sociologie*, 10(3), 277–293.
- Sacco, V. F. (1990). Gender, fear, and victimization: A preliminary application of power-control theory. *Sociological Spectrum*, 10(4), 485–506. <http://doi.org/10.1080/02732173.1990.9981942>
- Skogan, W. G., & Maxfield, M. G. (1981). *Coping with crime: Individual and neighborhood reactions*. London: Sage.
- Smith, L. N., & Hill, G. D. (1991a). Perceptions of crime seriousness and fear of crime. *Sociological Focus*, 24(4), 315–327.
- Smith, L. N., & Hill, G. D. (1991b). Victimization and Fear of Crime. *Criminal Justice and Behavior*, 18(2), 217–239. <http://doi.org/10.1177/0093854891018002009>
- Stack, S., & Eshleman, J. R. (1998). Marital Status and Happiness: A 17-Nation Study. *Journal of Marriage and the Family*, 60(2), 527. <http://doi.org/10.2307/353867>
- Staubli, S., Killias, M., & Frey, B. S. (2014). Happiness and victimization: An empirical study for Switzerland. *European Journal of Criminology*, 11(1), 57–72. <http://doi.org/10.1177/1477370813486866>
- Šolcová, I., & Kebza, V. (2005). Prediktory osobní pohody (well-being) u reprezentativního souboru české populace. *Československá Psychologie*, 49(1), 1–8.
- Tseloni, A., & Zarafonitou, C. (2008). Fear of Crime and Victimization: A Multivariate Multilevel Analysis of Competing Measurements. *European Journal of Criminology*, 5(4), 387–409. <http://doi.org/10.1177/1477370808095123>
- Tuček, M. (2013). *Pocit bezpečí a spokojenost s činností policie – listopad 2013*. Praha: Centrum pro výzkum veřejného mínění.
- Visser, M., Scholte, M., & Scheepers, P. (2013). Fear of Crime and Feelings of Unsafety in European Countries: Macro and Micro Explanations in Cross-National Perspective. *The Sociological Quarterly*, 54, 278–301.
- Wanner, R. A., & Caputo, T. C. (1987). Punitiveness, fear of crime, and perceptions of violence. *Canadian Journal of Sociology/Cahiers Canadiens de Sociologie*, 12(4), 331–344. <http://doi.org/10.2307/3340941>
- Warr, M. (1984). Fear of Victimization: Why are Women and the Elderly More Afraid. *Social Science Quarterly*, 65(3), 681–702.
- Warr, M. (2000). Fear of crime in the United States: Avenues for research and policy. *Criminal Justice*, 4(4), 451–489.
- Weinrath, M., & Gartrell, J. (1996). Victimization and fear of crime. *Violence and Victims*, 11(3), 187–197.
- Williams, J. S., Singh, B. K., & Singh, B. B. (1994). Urban youth, fear of crime, and resulting defensive actions. *Adolescence*, 29(114), 323–330.
- Winkelmann, L., & Winkelmann, R. (1998). Why are the unemployed so unhappy? Evidence from panel data. *Economica*, 65(257), 1–15.
- Yin, P. P. (1980). Fear of Crime among the Elderly: Some Issues and Suggestions. *Social Problems*, 27(4), 492–504. <http://doi.org/10.2307/800177>
- Zimmermann, A. C., & Easterlin, R. A. (2006). Happily Ever After? Cohabitation, Marriage, Divorce, and Happiness in Germany. *Population and Development Review*, 32(3), 511–528. <http://doi.org/10.1111/j.1728-4457.2006.00135.x>



---

## VIOLENCE AGAINST MEN AS MODERATED BY COUPLE'S SELF-CONTROL CONFIGURATIONS<sup>1</sup>

JIŘÍ BURIÁNEK

Department of sociology, Faculty of Arts, Charles University

E-mail: jiri.burianek@ff.cuni.cz

### ABSTRACT

In this paper we adhere to the view that the boundaries between common couple or situational violence and criminal act in the sense of the legal definition of the domestic violence are not totally sharp. The key thesis of general theory of crime (Gottfredson, 2005) about the importance of self-control we can develop so that the reasonable self-control can act as a protective factor on the side of the men as victims of intimate partner violence. Our question is whether the individual characteristics of both actors do not create specific composition (configuration), which operates in the form of conflicts, or may encourage the emergence of IPV. For good reasons, however, we think more about the mediation role of these self-control configurations. We can justify it by the assumption that higher self-control in the case of men can support the state in which the victim is overestimating his own potential and manifested even patronizing attitude towards the offender. Our 5 item typology reconstructed for a representative sample of Czech men (N = 1001) demonstrates some special effects of asymmetric configurations. On the other side the calamity configuration based on the lack of self-control on both sides appears still as the most risky. The level of victimization of men seems to be similar if compared to women and their chance to solve the problem is limited due to some specific reasons which are discussed as well.

**Key words:** partner violence; men; self-control

In the concept of domestic violence (as it is used in both current research and therapeutic contexts) violence *per se* is rather a metaphoric notion. It includes different phenomena, such as power, control and manipulation. This scope of actions is wide enough to encompass specific forms of permanent control, coercion, manipulation, humiliation, etc. (Gelles, 2003). Violence against men can be distinct slightly due to the lack of an “evident” predominance of power on the part of the perpetrator. On the other hand, there can be a strong potential of manipulation or power of rather a symbolic nature. Therefore, when dealing with it, one can not only swap the offender's and victim's genders.

There are a lot of theories explaining the origins of partner violence those “gender-neutral” among them is the general theory of crime (Gottfredson, 2005). It would be easily deducted that at side of the offender we can reckon with a reduced degree of self-control. If it is true that in the cases of typical IPV there is always the factor of power and control over the other's behavior in the background, it might be the impact of reduced

---

<sup>1</sup> Supported by scheme PROGRES Q15.



self-control not so evident, because we deal – at least partly – with an aggression targeted, controlled and prudently managed. Lower self-control should thus be closer to common intimate partner violence (as observed using survey methodology). Naturally, some conflicts or attacks involve a situation in which the roles of an offender and a victim are shifting (Winstok, 2007) but it would not be fair to say that the constellation is mostly symmetrical and that consequences of violence do not matter. To label a certain type of partner violence as “common” (Johnson, 1995; Čírtková, 2008) is only acceptable in order to avoid an inappropriate criminalization of any conflict. The monitoring and differentiation of various forms and consequences of intimate partner violence (IPV) remains a challenge for both research and considerations on the quality of life in a given society. Therefore, it is desirable to attempt to capture not only criminal, but also borderline forms of IPV using survey methodology. Moreover, data about real couples are still rare.

In this article we will stick to the view that the boundaries between regular partner or situational violence and criminal act in the sense of the legal definition are not totally sharp and clear. Its main aim is not to test the hypothesis of the impact of reduced self-control on the part of perpetrators on domestic violence. Because we are interested in women as perpetrators, it could help us to avoid the reproduction of the archetypal notions of women as irrational and emotion-ridden creatures that idea accompanied the beginnings of criminology in the 19<sup>th</sup> century.

Our opinion about the importance of self-control we can turn so that the reasonable self-control can act as a protective factor on the side of the victim. As a climax of this reflection, the question is whether the individual characteristics of both actors do not create specific composition (configuration), which operates in the form of conflicts, or may encourage the emergence of IPV. For good reasons, however, we think more about the mediation role of these configurations. Because this is the first attempt to capture this dimension of the couple dynamics this is of course a highly exploratory procedure. The task of intended analysis will be find configurations, describe them and outline the contexts of domestic violence.

Unlike the first attempt in this field (see Buriánek, Pikálková, & Podaná, 2015), we focus mainly on men as victims, and to a broader spectrum of possible associations. We can justify it by the assumption that high self-control on the part of men can support the state in which the victim is overestimating their own potential and manifested even patronizing attitude towards the offender.

### **Researching violence against men: a symmetry question**

Intimate violence against men represents a proverbial “dark figure” of crime and it emerges as a challenge for the empirical study. Their capacity to deal with a situation where there is violence on the part of woman-partner is limited and conditioned on it, whether he wants to inform anyone about the problems. The topic of domestic violence links criminology with the theories of the family and intimate relationships (Giddens, 1992) and it used to be interpreted as a purely private intimacy issue. In a late modern society, partner life is currently still quite idealized by both individuals and the public (Berger & Berger, 1983), because it is considered as an alternative to the world out there,



which is governed by a cruel competition under strict rules that transcend the individual. Also for this reason, over quite a long period of time, this area remained outside the scope of legislative norms. Although a partnership should be free from calculation and tendencies to put one's own interests first, it forms a part of the "gender-based power field" (Radimská 2003): this important accent has been made by feminist criminologists, who drew attention to power distribution and control motivations of violence in intimate relationships (e.g., Dobash & Dobash, 1979; Pagelow, 1984). However this fact supported a common sense imagination that a man as an object of partner violence represents an absolute exception, maybe a grotesque upheaval of his traditional role.

The domestic violence has been investigated since the late 1970s (e.g., Walker, 1979; Straus, Gelles, & Steinmetz, 1980). Nevertheless, there are only few attempts to study IPV in a comparative dimension, although the evidence has been done that there are substantial cultural differences in features of IPV incidents, their perception and the response to them (see Johnson, Ollus & Nevala, 2008; Levinson, 1989). Moreover, the majority of IPV research focuses on male-to-female partner violence, but there is a growing body of research indicating that female-to-male IPV violence is far from exceptional. Some scholars have even found larger extent of violence perpetrated by females (see the meta-analysis elaborated by Archer, 2000). In this context, research should not only concentrate on prevalence and incidence rates of IPV, but it should also examine its severity, the consequences and the motivations, as well as situational aspects and the couple dynamics (e.g., Tjaden & Thoennes, 2000; Walklate, 2001; Dobash & Dobash, 2004; Johnson, 2006; Chan, 2012).

Thinking about violence against men evidence, the current situation is rather modest: only some minor pilot studies (Lenz, 2006; Jungnitz, 2004) or data derived from victimological surveys are available (see Heiskanen & Ruuskanen, 2011), mostly concerning Scandinavian countries. As member of the team with Straus & Gelles, S. Steinmetz published an essay entitled *The battered husband syndrome* (Steinmetz, 1978), which was a kind of alternative to the battered woman syndrome (Walker, 1979). The study revealed that during the last year 16% of the couples saw various forms of *recurrent* violence. In half of the cases, the role of aggressor and victim alternated and also in couples with non-shifting roles the proportion of men and women was similar (see also Čírtková, 2010).

One of the greatest promoters of the symmetry hypothesis (cf. Archer, 2002; Kimmel, 2002) concerning the prevalence was Murray A. Straus (e.g., Straus, 2010). Straus' theory of dyadic concordance with the central hypothesis of gender symmetry of IPV (Straus, 2014) examined who in the relationship is the aggressor (the man, the woman, or both), and the symptomatic conclusion was that most couples at risk of violence are "symmetrical", no matter if the information is reported by men or women (Winstok & Straus, 2014). Some of these studies, however, are based on second-hand reports, e.g., when students give accounts of their parents' relationship. Obtaining information directly from couples is the best method but often one too complicated and costly. Our current study of self-control configurations represents an alternative way or a substitution in order to combat the limit of individual questioning.

In the Czech Republic, IPV started to be studied only after 1989. The interest in this area has been rising continually (Čírtková, 2002; Martinková, 2001; Voňková & Huňková, 2004). A comprehensive sociological approach to the phenomenon of violence in the

family in the Czech Republic was brought by the Safety Risks surveys (1999, 2001) and consequently by the International Violence Against Women Survey (IVAWS, conducted in 2003; see Pikálková, 2004; Buriánek & Pikálková, 2013; Podaná, 2010). Our first study of 1999 noted that 22% of men and 25% of women indicated being confronted with “a constant undermining of self-confidence or humiliation by the partner” (Vymětalová, 2001). Methodological experience derived from different surveys was broadly discussed in Buriánek (2013).

In contemporary Czech society, understanding domestic violence or intimate partner violence as a criminal offence is the standard position (Svoboda, 2010). After a wide-ranging discussion, the Act No. 135/2006 Coll., amending certain laws in the area of protection against domestic violence was finally approved in 2006. It incorporates the measure of temporary expulsion of the offender from a shared flat. The network of helping organisations (intervention centres, etc.) is also expanding. According to Martinková et al. (2014: 20, see also Table 1), between 2008 and 2012 judicial statistics accounted for about 330–420 finally convicted perpetrators of domestic violence a year (proportion of women accounted for roughly 7–10%).

**Table 1:** Police statistics on victims of the criminal offence of harassment/abuse of persons living in a common dwelling<sup>2</sup> – divisions according to the victims’ age and gender (Czech Republic, 2004–2012)

Year	0–17	18–70	70+	Individual victims	Men	Women	Group victims	TOTAL
2004	5	126	6	137	5	132	58	195
2005	10	406	30	446	25	421	251	697
2006	12	424	22	458	44	414	183	641
2007	15	563	29	607	27	580	207	814
2008	16	417	26	459	18	441	150	609
2009	16	417	20	453	20	433	141	594
2010	12	455	26	493	28	465	180	673
2011	19	534	26	579	25	554	196	775
2012	13	496	37	546	27	519	138	684

Source: Martinková (2014: 15–16)

The reasons for possible underreporting of IPV could be found in different areas (a false definition of the situation by men-victim, willingness to report the case, expected reaction of the police, judges decisions-making). The anticipated result of subsequent steps plays a role here, as judicial practice of divorce proceedings often sees women a bit favored. There is also a possibility influenced by a cultural background even to switch the roles: for a man it brings a risk to be investigated as an offender.

Men do not regard themselves as victims very often (Cook, 1997); they used to be reluctant to admit the facts. They fail to overcome the very first barriers common to all victims of domestic violence (in the respect of the latency in relation to the police and the

<sup>2</sup> Art. 199 of the new Czech Penal Code, Art. 215a PC

judiciary); a second hurdle is represented by specific concerns of abused men of “coming out” (Loseke, 2004). This second latency turns against researchers as well. Lenz (2006) talks about some sort of a silent coalition between victim, abuser and the assistance workers. Such social settings make it very difficult to help men who have become victims of domestic violence, because they become isolated in a fairly extensive manner.

## Data and methodology

The recently finished research on partner violence bears the name *Intimate partner violence: follow-up research to IVAWS 2003* and it raises some new questions: “Is violence against men comparable to violence that men commit against women?” (Buriánek, Pikálková, & Podaná, 2015) “What is the role of stalking in the contemporary Czech society?” (Podaná & Imříšková, 2016). Therefore, the methodology of the current replication research is based on the two principles, which needed to be integrated: the continuity of the 2003 IVAWS survey, and the possibility of comparing data from two nearly parallel surveys on violence against women and violence against men.

The research of men was carried out by the MillwardBrown agency (in December and January 2012/2013), while using quota selection (N = 1,001 respondents) and the CASI method as combined with face-to-face interviews. The sub-project IPV against women included a representative set of 1,502 Czech women aged 18 to 70; data was collected by the same agency in June and July 2013. The sampling used the random walk and the CASI/CAPI method. Survey on violence against women included female interviewers only.

The questionnaire included blocks of questions:

- Experience with psychological IPV forms from the current/former female partner (one set of questions at the beginning as the input or “warm-up” set, the other in the second half of the questionnaire, as a tool for comparing data with IVAWS 2003).
- Victimization by physical and sexual violence (based on CTS, including identification of sources, i.e., male as well as female offenders).
- Describing the profile of the most recent violent incident as perpetrated by the female partner.
- The characteristics of a violent partner.
- The characteristics of current partner and a description of the conflicts.
- Experience with family violence in childhood (respondent, partner).
- Experience of stalking, its progress.

In addition to the socio-demographic variables, a series of attitude- and value-related questions was included in the questionnaire:

- Attitudes towards the issue of domestic violence.
- Self-control – both respondents and partners (evaluated by respondents, of course).

## The sample

In presenting the characteristics of the set we shall emphasize those most related to the topic. The set is representative for Czech men and women aged 18 to 70, controlled by education, economic activity, and other parameters. A minimum of respondents see themselves in highest category of social status (by a subjective estimation – Table 2).

**Table 2:** A sample set of Czech men (N = 1,001) and women (N = 1,502) in %

AGE	Men	Women	Total	CLASS	Men	Women	Total
18–29	21.9	21.2	21.5	Lower	9.4	6.3	7.5
30–39	24.1	25.0	24.7	Lower middle	32.1	31.4	31.7
40–49	18.8	22.4	20.9	Middle	50.5	57.0	54.4
50–59	18.4	17.0	17.5	Upper middle	7.6	5.2	6.2
60–70	16.9	14.4	15.4	Upper	0.4		0.2
EDUCATION				ECONOMICAL STATUS			
Basic	7.3	5.8	6.4	paid job	63.2	57.2	59.6
Middle	43.6	33.6	37.6	self-employment	13.4	7.5	9.9
Middle with grade	32.7	47.6	41.6	unemployed	4.3	5.5	5.0
University level	16.4	13.1	14.4	at household/ maternal leave	0.1	8.6	5.2
Other	0.1		0.0	studying	4.8	5.6	5.3
	100	100	100	retired	13.2	15.4	14.5
				other	0.8	0.3	0.5
					100	100	100

Since most of the analyses shall involve partnership, it should be recalled that these questions relate to a large group of respondents. Marital status was stated as follows: 35% of single men and 25% of single women, 45% of married men (52% of married women), 16% were divorced. Partner relations create substantial part of the life of most of our interviewees, because 70% of men and 74% of women currently live in a relationship. In our sample 26% of men and 28% of women had been married at least once before, which corresponds to the relatively high divorce rate in the Czech Republic. In these coexistence patterns no significant differences are usually found between men and women, the only exception in this respect is cohabitation with a partner or friend, which was more often reported by women (18%) than by men (14.5%,  $p < 0.05$ ).

## Self-control measurement

The following analysis of self-control relies on the conceptual framework of the general theory of crime (Gottfredson & Hirschi, 1990, Hirschi & Gottfredson, 2000). Two central concepts of the theory, namely low self-control and opportunity, explain the stability of individual differences in the tendency to commit crime or other types of behaviour

that bear similar levels of risk (see also Wikström & Treiber, 2007; Pratt & Cullen, 2000; Mutchnick, Martin, & Austin, 2009). An up-to-date review of methodological debates is provided by Marshall & Enzmann (2012) along with an outline of the approach to self-control taken by the International Self-Report Delinquency Survey (ISRD).

Grasmick, Tittle, Bursik & Arneklev (1993) developed a scale which soon became one of the most popular subjective measures of self-control, even if Hirschi and Gottfredson repeatedly rejected it as a universal measure (Hirschi & Gottfredson, 2001: 230). Originally it was a 24-item self-report instrument which was intended to reflect the original six dimensions of self-control (see also Arneklev et al., 1999). Following empirical studies demonstrated both the existence of a single underlying factor and an adequate level of reliability (Piquero, 2008).

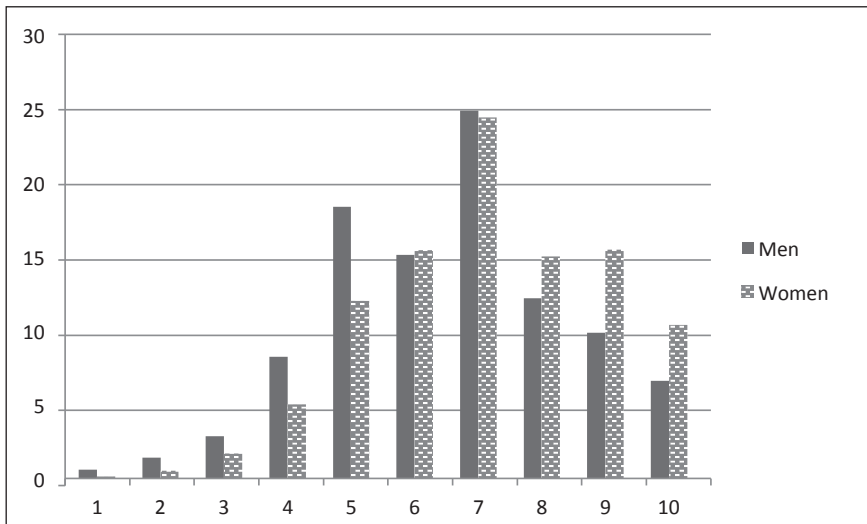
For the purposes of our surveys, we modified the ISRD2 12-item self-control scale. However, we used an alternative version which was developed for adult respondents by Eurojustis (and verified on a large pilot sample in the Czech Republic). To its eleven items we added another one (the fourth item in Table 3) measuring individual attitudes to conflicts. This item was not excluded from the analysis because it fit seamlessly with the scale, with little cost to its consistency or reliability, especially for women (Cronbach alpha for both subsamples 0.87).

**Table 3:** Self-control scale items (*agree or disagree on a scale from 1 to 4*)

Self-control scale	Women			Men		
	Mean	S. d.	N	Mean	S. d.	N
I act on the spur of the moment without stopping to think.	3.0	0.9	1269	2.9	0.9	828
I do whatever brings me pleasure here and now, even at the cost of some distant goal.	3.0	0.9	1269	2.8	0.9	828
If things I do upset people, it's their problem not mine.	2.6	0.9	1269	2.5	0.9	828
No reason to be concerned about conflicts: some can be fun and effective	2.7	0.9	1269	2.6	0.9	828
I often prefer to avoid tasks which seem to be difficult	3.0	0.8	1269	2.9	0.9	828
If things I do upset people, it's their problem not mine.	2.8	0.9	1269	2.8	0.9	828
I will try to get the things I want even when I know it's causing problems for other people	3.3	0.8	1269	3.0	0.8	828
I lose my temper pretty easily.	3.0	0.8	1269	2.8	0.9	828
When I'm really angry, other people better stay away from me.	2.9	0.9	1269	2.7	0.9	828
I try to look out for myself first, even if it means making things difficult for other people.	3.2	0.8	1269	3.0	0.8	828
Excitement and adventure are more important to me than security.	3.3	0.8	1269	3.0	0.9	828
I'm more concerned with what happens to me in the short run than in the long run.	3.2	0.8	1269	3.0	0.8	828

After the re-categorization of the sum score, the mean value on the 1–10 scale is 6.9 points for the entire dataset. The distribution leaned slightly toward higher self-control for both genders, more strongly so for women (7.1 points) than men (6.5). While such a result could be expected given women’s higher aversion to risk, it may as well be attributed to the social desirability bias.

In order to examine self-control in intimate partners, a shortened Likert scale was constructed from the last four items measuring how the respondents subjectively rated their partner’s characteristics. The reliability of the relatively short battery was acceptable, with Cronbach’s alpha values of 0.75 (for current partners) and 0.81 (for previous partners) in the entire dataset. The summed scores indicated substantially higher levels of self-control in women’s current partners (with a mean value of 11.9 on a scale from 4 to 16), compared to previous partners (10.0); the difference was lower for men (12.1 to 11.0)<sup>3</sup>. This could be expected given people’s general tendency to rate their current choices better than those made in the past.



**Figure 1:** Distribution of self-control (interval variable) – N = 2479  
 Note: difference between men (mean 6.5) and women (7.1) is significant.

### Relationship configurations based on Self-Control

While our dataset does not provide reliable evidence of a gender symmetry in violence (another section of the questionnaire contains merely questions about the aggressor in a single incident and about any instances of retaliation), it helps us measure the level of a/symmetry in self-control. The focus shifts to an independent variable that is correlated

<sup>3</sup> After current partner SC scale transformation into the format 1–10 the mean for the men’s spouses is 6.9, for women’s partners 6.8 (no significant difference).

to violence and may represent a relatively strong predictor thereof (although we only have a picture of violence experienced from partners).

The variables measuring self-control were elaborated into a typology of relationship configurations. Our goal was to identify couples that are either homogamous (“birds of a feather flock together”) or heterogamous (“opposites attract...”) in terms of self-control. The problem was that the values of respondent’s, current partner’s and previous partner’s self-control are strongly correlated (for current partner is  $R = 0.56$  in total sample).

We constructed a simple typology based merely on combinations of respondent’s and current partner’s self-control (as noticed above our data were not collected from couples and were not based on detailed accounts). Using the explorative method of K-means clustering, we opted for a five categories solution. In addition to the average or symmetrically neutral type, there were the high-control couples (referred to as “+ +”) and the calamity couples (with low self-control in both partners), and two asymmetrical options, namely the protective type (with higher self-control on the part of the respondent, who has to be prepared for higher levels of egocentrism and lower levels of self-control in his partner) and the compensational type (with higher self-control on partner’s part, as if the respondent was seeking reliable support in his/her partner).

**Table 4:** Results of cluster analysis: mean values of self-control by cluster and cluster distribution by gender in total sample (N = 1718)

Type:	(+ +)	(0 +)	(0 0)	(+ 0)	(- -)	
	Positive	Compensational	Average	Protective	Calamity	
Self-control	9.1	6.6	5.3	7.9	4.3	
SC_current partner	9.0	7.7	5.8	5.6	3.4	
Men (%)	20	33	21	17	9	100
Women (%)	26	24	17	25	8	100
Total	23.8	27.4	18.7	21.8	8.3	100

In the following, we are going to argue that the calamity and protective types have deviant tendencies. For this reason we have recoded the cluster membership to the ordinal continuum: since aggressor’s low self-control probably cannot be effectively compensated by higher self-control on the part of the victim, we expect higher prevalence of IPV in the protective configuration. This solution appears plausible, also because women are more likely to belong to the protective type and men to the compensational type. Given evidence of higher levels of self-control in women, our data seem to make an adequate picture of the situation on the partnership market.

With regard of the social background of these configurations, the strength of these determinants is relatively low. The different types can be found in all kinds of social settings, and they likely depend on different psychological mind-sets behind one’s choice of intimate partners. The both average and calamity configurations show a relatively lower level in the respect of both partner’s age (mean is 40, in total 44) and respondent’s age (even same values detected). We measured a relatively weak but statistically significant association with partner’s education in the subset of women. There is a higher frequency of positive configurations among women with college-educated partners, and a higher

frequency of the protective and calamity types among those with low-educated partners. Men with low-educated partners are also more likely to live in a compensational configuration.

### Effects of configurations on IPV

Table 5 shows the results for questions on victimization using a specific formulation typical for CTS scale. It shows lifetime (from the age of 16) prevalence for “slapping, kicking or punching” by anybody and consequently it adds the prevalence of this form caused by current partner.

As known (Buriánek, Pikálková, & Podaná, 2014; cf. also Killias, Haymoz, & Lamon, 2006), men are apparently more frequent victims of these forms of physical violence (if also outside-family experience incorporated), while women are mostly assaulted by their own partners (this is more likely the case in both at-risk configurations, men and women alike). Indeed, low self-control in men represents a risk factor in any case (both for him and for his partner).

**Table 5:** Specific form of life-time victimization by configurations and by gender (percentages)

		Configuration type:					
Slapped by:		Positive	Compens.	Average	Protective	Calamity	Total
Lifetime	Men	35	44	56	34	43	43
(by anybody)	Women	11	17	28	27	29	21
Actual partner	Men	2	4	3	9	21	5
	Women	3	12	15	20	25	16

Note: Number of respondents “slapped by current partner” 52 in total only, for subset of women difference between clusters not significant.

Couples with symmetrically high self-control appear to be the optimal configuration with highly (albeit not fully) protective effects in the area of violence or abuse. With the exception of aggression in public or restricting access to money by partner, men are more likely to report being victims of different forms of psychological abuse, with those living in a calamity configuration most at risk. Women in protective configurations are more likely to be neglected or devalued (details see in Buriánek et al., 2015). Comparison of selected items describing psychological violence yields similar results. Men in calamity configurations are more often targets of jealousy and they are at higher risk of insults and name-calling. When we summarized risk of psychological abuse into index, the most risk category proportion correlates with a ladder of configurations. As many as 32% of women living in calamity configurations were at high risk of psychological violence, and almost the exact same gradient (35%) was measured for the subset of men as well (the overall proportion of 12% of women and 15% of men at risk has been detected in the entire sample).



**Table 6:** Probability of conflict by gender (*means on scale 1–10*)

Configuration	Conflict probability:	
	Men	Women
Calamity	4.8	3.7
Protective	3.0	2.7
Average	3.1	3.0
Compensational	2.1	2.5
Positive	1.7	1.8
Total	2.7	2.5
<i>N</i>	661	1057

Additionally we can mention the reflection on probability of the occurrence of a violent conflict in current relationship (Table 6). Although there are almost no differences between men and women in total, in calamity configurations about one-fourth of women and even more men admit (with 6 or points more on the ten-point scale) that a violent conflict might occur. We have identified a significant correlation with the general evaluation of the quality of partnership as well ( $\eta = 0.34$ ).

### A typology refinement

Because our current analysis focuses exclusively on men it could be useful to precise a bit our typology of configurations. At first it seems to be correct to compare self-control on equivalent items only. It is possible due to the satisfactory reliability of 4-item scale for respondents (Cronbach alpha 0.74). The typology constructed still on explanatory base (both variables keep the mutual correlation on 0.56) probably reflect more precisely the point of view of men interviewees and it does not aspire for external comparison.

**Table 7:** Configuration types redefined for men

Self-control short scale	Cluster (men only)				
	Calamity	Average	Compensational	Positive	Protective
SC_Respondent	7.9	11.2	10.5	14.5	13.9
SC_Actual Partner	7.7	10.8	13.6	14.8	10.7
<i>N</i>	57	204	95	182	83

The picture of proportions of separate types among men differs slightly (one fourth has changed position) but it is acceptable to see the rise of the share of positive constellation and the fall down of compensational arrangements. As noticed above we deal with subjective evaluation of both and men tend to see their counter-parts as a bit better self-controlled.

There is no influence of education (only among protective a bit higher level is observable) and age (with a slightly higher proportion of category 30–39 by calamities), no effect confirmed in the case of religiosity of partner as well. Following table (8) enables to control clusters by the self-control measure based on full scale and review the estima-

tion of the probability of partner conflict: the differences seems to be fixed, the probability slightly higher among all types (see table 6). The biggest difference is in satisfaction with the relationship between positive (9.1) and protective arrangement (7.3 on average). Previous partnership evaluation did not offer significant deviations, the subsample is relatively small.

**Table 8:** Quality of partnership by configurations (means, 1–10)

<i>Means</i>					
Configuration type	Self control (full scale)	Satisfaction in partnership	Parent partnership evaluation	Previous partnership evaluation	Probability of conflict in current partnership
Calamity	4.1	8.0	7.4	6.5	4.8
Protective	7.9	7.3	7.8	5.8	3.5
Average	6.1	8.0	7.5	6.1	2.8
Compensational	5.7	8.7	8.1	6.4	2.4
Positive	8.4	9.1	8.5	6.3	1.8
Total	6.8	8.3	7.9	6.2	2.7
	620	621	621	372	621

Note: Nonsignificant result shaded

We have approved the path dependency of constellations by exploiting information about childhood of our sample of men. Bad conditions stimulate the tendency to opt for calamity configuration and the linear trend is quite clear-cut. The prevalence of violence among parents on the side of partner is in general small (6% in total, for calamity 12%). The divorce of own parents had no effect, the incomplete family only minor effect (calamity 23%, 14% in total).

**Table 9:** Disadvantages in respondent's childhood by configurations (%)

	Configuration type MEN					
	Calamity	Protective	Average	Compensational	Positive	TOTAL
No harmony in original family	39	28	33	31	21	29
Physical violence among parents	19	12	10	11	8	11

In the statistical sense there is also no significance of binge drinking frequency, although respondents from calamity relationship declared “weekly” in 14% (overall sample 8% only). Similar result (not significant) offers the breakdown by configuration for partner binge drinking (Fig. 2).

### The associations between configurations and IPV

In the respect of aggression on the public places which is a strong predictor of IPV risk, calamity configuration contains 7% of such spouses (in total 1.5%). Taking into ac-

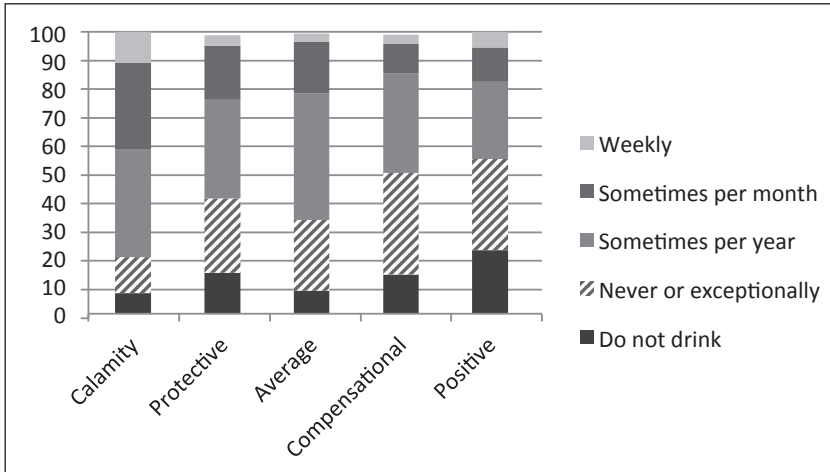


Figure 2: Binge drinking (5 units) frequency in the part of partner by configuration

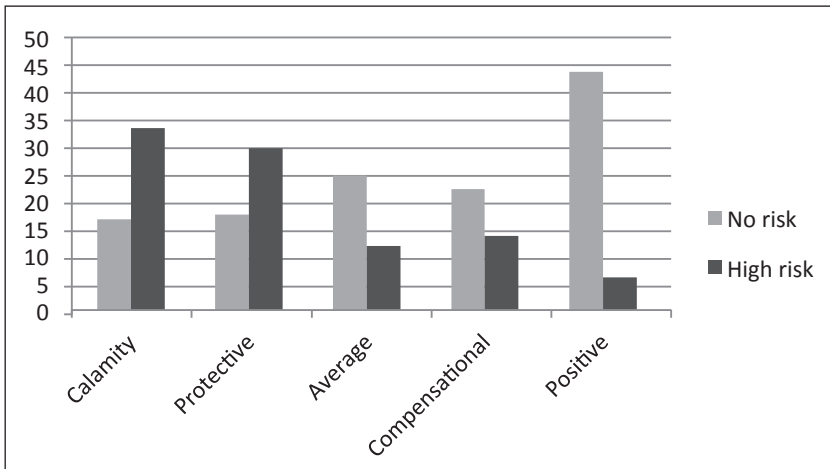


Figure 3: Share of both extreme risk of abuse categories by configurations (%)

count “*Calling names...*” the proportion of “*always + often*” reach up to 11% by calamity relationships (in total 3%). On the contrary, the share of “*never*” category increases from 68% by calamity up to 93% by positive balanced couples. Closer contact with “*Jealousy*” is also observable among calamity couples (19% “*often*”) and protective ones (17%, in total 10% only). We can conclude that calamity configuration opens the space for IPV against men however it is not its ultimate cause because it express the low level of self-control on the side of partner.

Using our index of psychological abuse which covers many typical forms of IPV we have got a chance to separate a high risk category (level five means frequent exposition to different forms of abuse or violence). Figure 3 compare this risk category broken

down by configurations: the transfer from calamity to positive arrangement illustrates a special impact of configuration.

At the same moment we have to stress that calamity configuration legitimates (when our respondents were asked for a hypothetical situation of a physical attack) a kind of relatively strong response by use physical power.

**Table 10:** Man's reaction (as estimated) on physical attack by configuration (%)

Solution of potential spouse-attack	Configuration types – MEN					
	Calamity	Protective	Average	Compensational	Positive	Total
Even stronger revenge	2	1	1	2	3	1,7
Same way reaction without escalation	17	3	3	2	1	3,4
Limited physical defense	15	18	14	9	10	12,5
Other tools to solve	15	20	18	18	14	16,9
Unappropriate to react on such kind	23	30	33	34	36	32,9
Escape only reasonable	28	26	30	33	36	31,6
Other meaning	0	3	1	0	1	1,0
	100	100	100	100	100	100

To resume findings from the last incident descriptions we can mention that in calamity configurations the incidents are serious but the chance for a coming out is relatively lower (there is a skepticism about police capacity to deal with, for example). Table 11 examines alternative measures of the capacity to inform other people (applicable due to more general formulation of the question on current state of arts in general). This enlargement of the subsample brings statistically significant result and reveals an interesting effect of protective configuration. In the whole sample the calamity configuration loses

**Table 11:** Latency of IPV by configuration in different contexts (%)

	Configuration type MEN						
	Calamity	Protective	Average	Compensational	Positive	Total	N
Closest people know	69	45	18	39	41	37	132
Your friends know about <sup>4</sup>	53	27	15	17	18	24	132
Conflicts frequent, not violent	28	22	14	7	3	12	621
Initiated mostly by partner	26	31	19	16	9	18	621

<sup>4</sup> Similar, although nonsignificant results can be found concerning expert assistance (8%), Police help (calamity 11: 2% in total), family knows (calamity 44%, protective 39%, total 32%), colleagues know (13% in total).

the capacity to hide incident or incidents: the situation of a dramatic “Italian marriage” is usually reflected by closest environment of the couple. Both combinations with a lower level of partner self-control tend to increase frequency of conflicts (mostly non-violent): the role of partner as an originator is out of doubts.

For calamity configuration a ratio between offender’s spontaneous motivation and provoked or defensive reaction is 63 : 37 percent, the positive configurations demonstrate 93 : 7, in addition by positive there was no aggression defense type, while one fourth by calamities! It could support the hypothesis that for calamity relationship are more common mutual attacks, in partners with high self-control came about partly intentional conduct.

We do not prefer to come back to extensive measures of life time prevalence of violence because the share of other men as offender is of great importance. Therefore, the role of configuration can’t become a crucial one. It can be detected for example in physical threats item (calamity 29%, positive 14% only, 20% in total), among calamities is observable a bit higher proportion of partner as actor. The fact that the respondent admits his share on a provocation is not related to the type of configuration (26% in total).

## Conclusions

Pagelow (1984) covers values fixing woman into a violent relationship by the concept of *traditional ideology*. However, men might also see their way out of the troubled partnership hindered by traditional ideological patterns. The configuration analysis offers the hypothesis that a traditional pattern of expected masculinity could support the over-protective attitudes. In modern non-patriarchal society, the value of parental roles is gaining weight for many fathers as well. The reason may be that they – in part by objective circumstances, in part deliberately – no longer maintain the traditional role of breadwinner. Obviously, emerging organizations defending the rights of fathers (very often divorced individuals) suggest that this may be the sign of a new tradition imaging man as parent apart from a mere contributor to food. However, we have to avoid the misuse of this “new ideology” in cases when a fight for child care emerges as a tool of revenge to his ex-partner.

Men may find it more acceptable to remain in a troubled relationship: if any partner’s threat has the potential of an unpleasant consequence (e.g. an escape with children and, paradoxically, a suicide threat), the risk becomes real (cf. Wolf et al., 2003; Buriánek et al., 2006). Therefore, even a seemingly weaker individual is able to manipulate her stronger counterpart, which partly explains the inability of some men to evade a troubled relationship. Simply said, divorce is still considered – despite a kind of its “normalization” – by many men to be a stigmatizing thing. Furthermore, a man leaving his partner can meet various and mostly real risks:

- worries associated with the provision of an alternative residence,
- loss of the children,
- obligation to pay alimony, etc.

Psychological abuse – at the risk level detected by 15% of Czech males, although rarely streamed directly into a criminal prosecution – could indicate the presence of serious

violence in the partnership. It affects the satisfaction with the partnership and it could also play a role in the explanation of the high divorce rates in the Czech Republic. The victimization of men offers a lot of similarities if compared to the one of women (cf. Straus, 2006). Because Czech women and men are characterized by high expectations in the respect of values of good partnership (Buriánek, Pikálková, & Podaná, 2015), a risk factor may lie even in simple ignorance of partner's needs, especially if partner is characterized by higher level of egocentrism and lower level of self-control. According to our data, the impact of lower social status should not be ignored as well (cf. Salmi & Danielsson, 2014). Even if our knowledge of the configurations of intimate relationships is based on information from one partner per couple only, one conclusion can be made: these configurations establish an important underlying factor of conflicts and psychological abuse. While the effects of (respondent's or partner's) self-control on violence are often neither immediate nor strong, self-control moderates other risk factors (cf., e.g., Wikström & Treiber, 2007; Rebellon et al., 2008), including the frequency of binge drinking as a typical risky behavior.

If thinking about practical consequences, the art of choosing wisely still plays an important role in partner choice. In line with the general theory of crime of Gottfredson & Hirschi (1990) or Burton et al. (1998), one should choose with regard to their potential partner's self-control and do not rely on own even high potential. Lower levels of self-control in partner are a risk factor and specific predictor of abusive or violent behavior. However, the coupling scheme seems to be often fixed (at individual level) and the offer of suitable partners always limited. Self-control configurations can play a protective role but the harshest forms of IPV grow up from much more deeper roots.

## REFERENCES

- Archer, J. (2000). Sex Differences in Aggression Between Heterosexual Partners: A Meta-Analytic Review. *Psychological Bulletin*, 126(5), 651–680.
- Archer, J. (2002). Sex differences and physically aggressive acts between heterosexual partners: A meta-analytic review. *Aggression and Violent Behavior*, 7(4), 313–351.
- Arneklev, B. J., Grasmick, H. G., & Bursik, R. J., Jr. (1999). Evaluating the dimensionality and invariance of 'low self-control'. *Journal of Quantitative Criminology*, 15, 307–331.
- Berger, B., & Berger, P. L. (1983). *The War over the Family: Capturing the Middle Ground*. Hutchinson Educ.
- Buriánek, J. (2013). Violence Against Men as a Challenging Topic for Empirical Research. Pp. 61–70. In: A.Kuhn et al. (eds.), *Kriminologie, Kriminalpolitik und Strafrecht aus internationaler Perspektive*, Staempfli Verlag AG Bern.
- Buriánek, J., Kovařík, L., Zimmelová, P., & Švestková, R. (2006). *Domácí násilí – násilí na mužích a seniorech*. [Domestic violence – violence against men and seniors] Prague: Triton.
- Buriánek, J., & Pikálková, S. (2013). *Intimate Violence. A Czech Contribution on International Violence Against Women Survey*. Prague: Karolinum.
- Buriánek, J., Pikálková, S., & Podaná, Z. (2014). *Násilí na mužích. Sonda do zákoutí partnerských vztahů*. [Violence against men. A sondage on secluded places of partner relationships] Prague: FF UK.
- Buriánek, J., Pikálková, S., & Podaná, Z. (2015). *Abused, Battered, or Stalked: Violence in Intimate Partner Relations Gendered*. Prague: Karolinum.
- Burton Jr, V. S., Cullen, F. T., Evans, T. D., Alarid, L. F., & Dunaway, R. G. (1998). Gender, self-control, and crime. *Journal of Research in Crime and Delinquency*, 35(2), 123–147.

- Chan, K. L. (2012). Gender symmetry in the self-reporting of intimate partner violence. *Journal of Interpersonal Violence*, 27(2), 263–286.
- Cook, P. W. (1997). *Abused Men: The Hidden Side of Domestic Violence*. Westport: Praeger.
- Čírtková, L. (2002). Domáci násilí ve faktech a teoriích. [Domestic violence in facts and theories]. *Gender – rovné příležitosti – výzkum 1/2002*.
- Čírtková, L. (2010). Muži jako oběti domácího násilí. [Men as victims of domestic violence]. *Právo a rodina*, 2010(7).
- Dobash, R. E., & Dobash, R. P. (1979). *Violence Against Wives. A Case Against the Patriarchy*. New York: The Free Press.
- Dobash, R. P., & Dobash, R. E. (2004). Women's violence to men in intimate relationships: Working on a puzzle. *British journal of criminology*, 44(3), 324–349.
- Gelles, R. J. (2003). Violence in the family. Pp. 837–862. In: W. Heitmeyer, & J. Hagan (eds.), *International Handbook of Violence Research*. Dordrecht: Kluwer Academic Publishers.
- Giddens, A. (1992). *The Transformation of Intimacy: Sexuality, Love and Eroticism in Modern Societies*. Cambridge: Polity Press.
- Gottfredson, M. R. (2005). The empirical status of control theory in criminology. Pp. 77–100. In: F. T. Cullen, J. P. Wright, & K. Blevins, *Taking Stock: The Status of Criminological Theory*, Piscataway, New Jersey: Transaction.
- Gottfredson, M. R. & Hirschi, T. (1990). *A General Theory of Crime*. Stanford, California: Stanford University Press.
- Grasmick, H. G., Tittle, C. R., Bursik Jr, R. J., & Arneklev, B. J. (1993). Testing the core empirical implications of Gottfredson and Hirschi's general theory of crime. *Journal of research in crime and delinquency*, 30(1), 5–29.
- Heiskanen, M. & Ruuskanen, E. (2011). *Men's experiences of violence in Finland 2009*. Helsinki: HEUNI.
- Hirschi, T., & Gottfredson, M. R. (2000). In defense of self-control. *Theoretical Criminology*, 4(1), 55–69.
- Johnson, H., Ollus, N., & Nevala, S. (2008). *Violence Against Women. An International Perspective*. New York: Springer.
- Johnson, M. P. (1995). Patriarchal terrorism and common couple violence: Two forms of violence against women. *Journal of Marriage and the Family*, 57(2), 283–294.
- Johnson, M. P. (2006). Conflict and control: Gender symmetry and asymmetry in domestic violence. *Violence against women*, 12(11), 1003–1018.
- Jungnitz, L. et al. (2004). *Violence against men. Men's experience of interpersonal violence in Germany*. Federal Ministry for Family Affairs.
- Killias, M., Haymoz, S., & Lamon, P. (2006). *Swiss Crime Survey. Die Kriminalitaet in der Schweiz im Lichte der Opferbefragung von 1984 bis 2005*. Bern, Staempfli Verlag AG.
- Kimmel, M. S. (2002). "Gender symmetry" in domestic violence: A substantive and methodological research review. *Violence against women*, 8(11), 1332–1363.
- Lenz, H.-J. (2006). Gewalt gegen Männer als neues Thema in Forschung und Gesellschaft. Pp. 98–116. In: W. Heitmeyer/M. Schröttle (Hrsg.): *Gewalt. Beschreibungen, Analysen, Prävention*. Bonn: Bundeszentrale für politische Bildung.
- Levinson, D. (1989). *Family Violence in Cross-Cultural Perspective*. Newbury Park: Sage Publications.
- Marshall, I., & Enzmann, D. (2012). The Generalizability of Self-Control Theory. Pp. 285–328. In: J. Junger-Tas, I. H. Marshall, D. Enzmann, M. Killias, M. Steketee, & B. Gruszczynska, *The Many Faces of Youth Crime. Contrasting Theoretical Perspectives on Juvenile Delinquency across Countries and Cultures*, New York: Springer.
- Martinková, M., & Macháčková, R. (2001). *Vybrané kriminologické a právní aspekty domácího násilí*. [Selected criminological and legal aspects of domestic violence] Prague: IKSP.
- Martinková, M., Slavětinský, V., & Vlach, J. (2014). *Vybrané problémy z oblasti domácího násilí*. [Selected problems of domestic violence]. Prague: IKSP.
- Mutchnick, R., Martin, R., & Austin, W. T. (2009). Travis Hirschi. Pp. 283–326. In: *Criminological Thought: Pioneers Past and Present*. Upper Saddle River, N J: Prentice Hall.
- Pagelow, M. D. (1984). *Family Violence*. New York: Praeger.

- Pikálková S. (ed.) (2004) *Mezinárodní výzkum násilí na ženách – ČR/2003: příspěvek k sociologickému zkoumání násilí v rodině*. [International research on violence against women – CR / 2003: contribution to the sociological exploration of family violence]. Prague: Sociologický ústav AV.
- Pikálková, S., Podaná, Z., & Buriánek, J. (2015). *Ženy jako oběti partnerského násilí: sociologická perspektiva*. [Women as victims of intimate partner violence: a sociological view] Prague: SLON.
- Piquero, A. R. (2008). Measuring self-control. Pp. 26–37. In: E. Goode (ed.), *Out of Control: Assessing the General Theory of Crime*, Stanford, Cal.: Stanford University Press.
- Podaná, Z. (2010). Reporting to the police as a response to intimate partner violence. *Czech Sociological Review*, 46(3), 453–474.
- Podaná, Z., & Imříšková, R. (2016). Victims' responses to stalking: An examination of fear levels and coping strategies. *Journal of interpersonal violence*, 31(5), 792–809.
- Pratt, T. C., & Cullen, F. T. (2000). The empirical status of Gottfredson and Hirschi's general theory of crime: A metaanalysis. *Criminology*, 38(3), 931–964.
- Radimská, R. (2003). Moc a individuální zájmy v partnerských vztazích. [Power and individual interests in intimate partnership]. *Gender, rovné příležitosti, výzkum*, 4(3–4), 4–5.
- Rebellon, C. J., Straus, M. A., & Medeiros, R. (2008). Self-control in global perspective: An empirical assessment of Gottfredson and Hirschi's general theory within and across 32 national settings. *European journal of criminology*, 5(3), 331–361.
- Salmi, V., & Danielsson, P. (2014). Intimate partner violence victimization and household financial strain. *Journal of Scandinavian studies in criminology and crime prevention*, 15(2), 159–166.
- Straus, M. A. (2006). Future research on gender symmetry in physical assaults on partners. *Violence against women*, 12(11), 1086–1097.
- Straus, M. A. (2010). Thirty years of denying the evidence on gender symmetry in partner violence: Implications for prevention and treatment. *Partner Abuse*, 1(3), 332–362.
- Straus, M. A. (2014). *Bringing couple-level measures and family contradictions into research through dyadic concordance types*. Unpublished manuscript. Durham, NH: Family Research Laboratory. Retrieved from <http://pubpages.unh.edu/~mas2>
- Straus, M. A., Gelles, R. J., & Steinmetz, S. K. (1980). *Behind Closed Doors: Violence in the American Family*. New York: Doubleday/Anchor.
- Svoboda, M. (2010). *Pomoc mužům jako obětem domácího násilí v ČR*. [Helping men as victims of domestic violence in the Czech Republic] Prague: Charles University.
- Tjaden, P., & Thoennes, N. (2000). Prevalence and consequences of male-to-female and female-to-male intimate partner violence as measured by the National Violence Against Women Survey. *Violence against women*, 6(2), 142–161.
- Voňková, J., & Huňková, M. (2004). *Domácí násilí v českém právu z pohledu žen*. [Domestic violence in Czech law from the perspective of women]. Prague: Profem.
- Vymětalová [Pikálková], S. (2001). Domácí násilí: přirozený jev? *Sociologický časopis (Czech Sociological Review)*, 37(1), 103–121.
- Walker, L. E. (1979). *The Battered Woman*. New York: Harper and Row Publishers.
- Walklate, S. (2001). *Gender, Crime and Criminal Justice*. Devon: Willan Publishing.
- Wikström, P. O. H., & Treiber, K. (2007). The role of self-control in crime causation: Beyond Gottfredson and Hirschi's general theory of crime. *European Journal of Criminology*, 4(2), 237–264.
- Winstok, Z. (2007). Toward an interactional perspective on intimate partner violence. *Aggression and Violent Behavior*, 12(3), 348–363.
- Winstok, Z., & Straus, M. A. (2014). Gender differences in the link between intimate partner physical violence and depression. *Aggression and Violent Behavior*, 19(2), 91–101.
- Wolf, M. E., Ly, U., Hobart, M. A., & Kernic, M. A. (2003). Barriers to seeking police help for intimate partner violence. *Journal of family Violence*, 18(2), 121–129.



---

## CORPORAL PUNISHMENT OF CHILDREN BY PARENTS IN THE CZECH REPUBLIC: ATTITUDES, PREVALENCE RATES, AND INTERGENERATIONAL TRANSMISSION OF VIOLENCE<sup>1</sup>

ZUZANA PODANÁ

Department of Sociology, Faculty of Arts, Charles University

E-mail: zuzana.podana@ff.cuni.cz

### ABSTRACT

This article describes and analyzes the use of corporal punishment (CP) of children by parents in Czech society, while making use of several quantitative surveys conducted both among adolescents and in the adult population. The focus is mainly placed on the following issues: attitudes to CP, prevalence rates and severity of CP among adolescents, the association between the use of CP and the nature of the family environment, and the intergenerational transmission of violence. The results show that the use of CP in Czech families is widespread, as the previous year prevalence rate for 15-year-old adolescents reached a high of 43% and experience with severe types of CP was reported by 9% of adolescents. In addition, the approval of CP is very high both among adolescents and adults; nevertheless, adults do seem to be rather critical of non-minor CP. Finally, the findings also lend some support to the hypothesis of the intergenerational transmission of violence, but it is suggested that different forms of exposure to violence in the family (i.e. experience with CP and witnessing intimate partner violence among parents) are associated with different types of behavior and attitudes.

**Key words:** corporal punishment; transmission of violence; adolescents; Czech Republic

### Introduction

Physical violence among family members was, for a long time, considered a private matter in which, with the exception of extreme cases, external authorities should not intervene. Minor forms of physical violence were often accepted as suitable or tolerable educational practices to correct the improper behavior of members with a lower position in the hierarchy of power in the family, i.e. parents punished the children and husbands their wives. The issue of wife battering or more generally intimate partner violence (IPV) has been widely discussed in Western countries since the 1970s (e.g. Dobash & Dobash, 1979; Sherman & Berk, 1984; Straus, Gelles, & Steinmetz, 1980; Walker, 1979) and different measures have been taken to prevent this phenomenon and offer help to its victims. In the Czech Republic (CZ), this problem was entirely overlooked during the Communist era and it took another decade to introduce this issue into public discourse. Con-

---

<sup>1</sup> This study was supported by the Czech Science Foundation grant “Youth victimization: Prevalence, forms, and social context” (GP14-08021P).

sequently, the first law specifically targeting IPV was not introduced until 2004 (Section 215a, Act No. 140/1961).

With respect to the corporal punishment (CP) of children by parents, the first country which passed a total ban on CP was Sweden in 1979 (see, Olson, 1984) and a later evaluation showed that it was highly successful (Durrant, 1999). Soon, other countries followed their lead and by November 2015, 29 out of 47 Council of Europe member states had prohibited CP by parents (Council of Europe, 2015). A total ban on the CP of children is a requirement stated in the European Social Charter, in which Article 17 declares that children should be protected against violence. Another international treaty which demands CP to be outlawed is the United Nations Convention on the Rights of the Child, specifically Article 19 (United Nations, 1989). Moreover, the aim to end all forms of violence against children is explicitly included in the United Nations Sustainable Development Goals for the period 2015–2030 (United Nations, 2015). According to a report prepared by the Global Initiative to End All Corporal Punishment of Children from March 2016, 48 states have already achieved the prohibition of CP in all settings, including the family, and another 53 states have made clear commitments to do so (Global Initiative, 2016b).

Although the Czech Republic has ratified both above-mentioned treaties, the Czech government has never been truly committed to passing a law banning CP. There was only one brief attempt to initiate such a piece of legislation by the Minister for Minorities and Human Rights, Džamila Stehlíková, in 2008, however, she dropped the idea early on due to an extremely negative reaction from a large portion of the public, politicians, and even many professionals (see e.g., Kubálková & Drchal, 2008; Němcová, 2008; Šťastný, 2008). Since then, the Czech government has been avoiding re-opening this issue and when urged by international organizations to act, they argue that the current state of Czech legislation, especially considering the introduction of the new Civil Code, guarantees children sufficient protection against improper punishment in the family. Nevertheless, the European Committee of Social Rights, which assessed whether or not the Czech Republic breaches the European Social Charter, came to the conclusion that Czech children are not adequately protected against CP in the family setting (Global Initiative, 2016a).

Scientific research on corporal punishment and the abuse of children by parents is plentiful and has focused on both short-term and long-term consequences in terms of the different types of both externalizing and internalizing behavior and the influence on cognitive performance. Whereas there is clear evidence of the negative impact of severe CP and child abuse (see, e.g., Widom & Wilson, 2015), the effects of less severe physical punishments, e.g. spanking or slapping, are passionately debated as research brings forth contradictory findings (e.g., Gershoff, 2002, 2010; Larzelere & Cox, 2013). The meta-analytical study which was likely the first attempt to shed light on this issue was conducted by Gershoff (2002). She analyzed data from 88 studies and concluded that although CP has a positive effect on the child's immediate compliance, there are also many undesirable effects, primarily increased delinquent and antisocial behavior and increased aggression both in childhood and in adulthood, but also the deteriorating quality of the parent-child relationship, and a higher risk of child abuse.

Nevertheless, her results are not universally accepted and some researchers emphasize that there are certain methodological shortcomings inherent to the majority of stud-

ies on CP (e.g., Larzelere & Cox, 2013). Ferguson (2013) attempted to overcome some of these problems and conducted a meta-analytical study of longitudinal research on CP and spanking, in which he reported partial correlation coefficients controlling for the time-1 negative child outcomes (i.e. earlier problem behaviour and cognitive performance). His results showed only a very small negative impact of physical punishments on the child's behavior and cognitive performance; however, there was some evidence that moderate CP might affect externalizing behavior more among adolescents than among younger children. Although it is still questionable whether mild CP can cause any serious harm, Gershoff (2010) strongly argues against the use of CP, stressing that virtually no study has shown any positive effects of CP whereas negative consequences have been suggested by many authors. Furthermore, CP is unacceptable since it violates the fundamental human rights of children – to be protected against all forms of violence – as is declared in several international treaties.

With respect to the exposure of children to violence in the family, the validity and/or the extent of the intergenerational transmission of violence, or the so-called cycle of violence, is often discussed (e.g., Fagan, 2005; Holt, Buckley, & Whelan, 2008; Widom & Wilson, 2015). This hypothesis suggests that children who are exposed to violence in the family – be it serious CP, child abuse, or violence between parents – have a higher likelihood of using violence in the future, i.e. committing violent crimes, acting aggressively, abusing their spouses or mistreating their children. Widom and Wilson (2015) summarize that the most popular explanation for the mechanism of this transmission stems from social learning theory, however recent findings also lend some support to theories influenced by behavioral genetics approaches, which claim that the transmission is conditioned on genetic susceptibility factors. They conclude that even though the mechanisms of the transmission are yet to be properly examined, there is strong evidence that the exposure to violence in the family does increase the likelihood of later involvement in delinquency and violent behavior.

The main objective of this article is to describe and analyze the situation in the Czech Republic regarding the CP of children by parents while using different surveys which examine these issues. First, attention will be drawn to attitudes to CP. Czech society is believed to be strongly against banning CP in the family setting, which is reflected in the reluctance of politicians to draft any piece of legislation which would regulate this area. Thus, we will present the results of surveys both among adults and adolescents which examine attitudes towards CP to determine whether the perception of CZ as a country favoring CP is well-founded or not. Second, the extent of CP use by parents towards adolescents will be described. Furthermore, we will analyze if a different degree of CP use is associated with different parenting styles, the quality of the child-parent bond and the extent of abusive interactions between parents. Third, attention will be paid to the intergenerational transmission of violence. In this respect, our possibilities are limited, since there has been no longitudinal research focusing on these issues in CZ; therefore, we will have to rely on partial results from cross-sectional surveys and cautiously interpret the findings with respect to causality.

## Data

The data analyzed in this article come from three Czech surveys conducted by the Faculty of Arts of Charles University (FF UK) in the last decade. First, information on experience with corporal punishment by parents among adolescents and their attitude to CP is gathered from the “Urban Youth Survey” (UYS; see, Forejtová & Podaná, 2016). It is a school-based self-report criminological survey which was held in the four largest cities in CZ in 2015 and targeted children in the 9<sup>th</sup> grade. The final sample includes responses from 1546 adolescents. Second, information on the attitude to CP and personal experience with CP during childhood among the Czech adult population was obtained from the survey “Aktér 12-2011”, conducted in 2011. This omnibus survey used quota sampling and collected data from 1109 respondents. Third, the hypothesis of the intergenerational transmission of IPV was tested using data from the “Intimate Partner Violence (2012/2013)” survey (see, Buriánek, Pikálková, & Podaná, 2015). This research project consisted of two victimological surveys, the first of which targeted male victims of IPV (held in 2012/2013) while the second focused on female victims (held in 2013). The final sample consists of 1001 males and 1502 females.

## Attitudes to corporal punishment

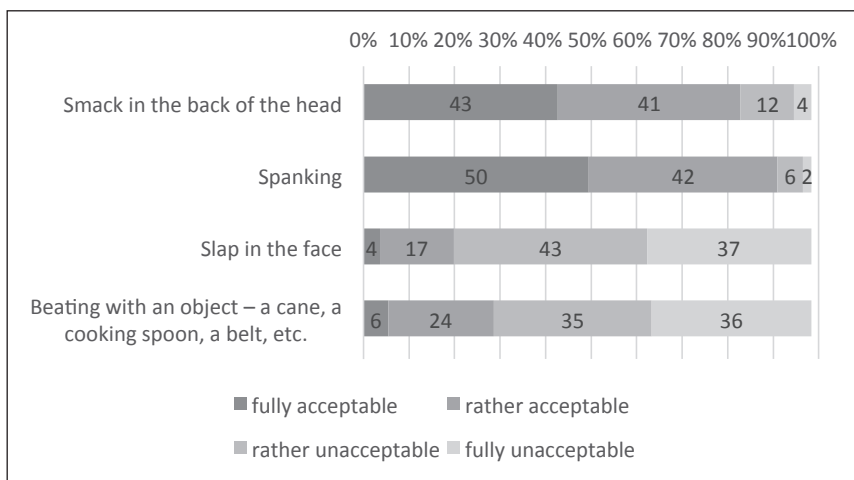
Czech society is believed to be highly tolerant to the CP of children in the family. Thus, the objective of this introductory section is to examine the real extent of this approval of CP both among Czech adults and juveniles and to analyze which segments of the population are most in favor of CP. One of the first research studies in CZ which was aimed at domestic violence, including CP in the family, was a survey conducted by the Department of Sociology FF UK “Rizika 1999” (see, Vymětalová, 2001) in which respondents were asked which types of punishment of children they considered to be forms of violence. The results showed a very high tolerance towards minor types of CP, namely a smack in the back of the head<sup>2</sup> and spanking, which are typically used towards little children. Less than one tenth of the respondents (8% and 5% respectively) considered these to be forms of violence, whereas more than half (54% and 67%) would not label these as violence; the rest considered these practices to be forms of violence only if used frequently. However, a very different outcome was revealed with respect to more serious CP – a slap and beating with an object – which were viewed less tolerantly. Almost one half of the respondents labelled them as violence (41% and 46%) whereas only about one tenth considered them to be nonviolent forms of punishment (12% and 9%). An obvious issue of this study is the very formulation of the question on the evaluation of the “violentness” of these types of punishments, which does not necessarily correspond to the attitude towards the use of CP in child rearing. A person might, for instance, consider beating a child with a belt as a type of violence, although they still might approve of it as a legitimate parenting practice.

---

<sup>2</sup> The Czech language distinguishes between a “smack in the back of the head” (“pohlavek”) which is a light smack by an open hand, usually used towards little children, and a “slap” (“facka”) which is a blow by an open hand on the face.

Therefore, a different approach was used when a section on CP was included in the later survey “Aktér 12-2011”. Instead of evaluating “violentness”, the question asked about the acceptability of such punishments. Figure 1 shows that minor punishments (a smack in the back of the head and spanking) are considered as acceptable by the vast majority of Czech society (84% and 92% respectively) where about a half of the respondents even chose the answer “fully acceptable”. Even though these results are not directly comparable to the previous survey from 1999, it is obvious that no dramatic shift in the public perception of these punishments had taken place between these two surveys.

A slap in the face and giving a beating were considered as acceptable forms of punishment only by a minority of the respondents in 2011 (20% and 29%) and more than one third of them even labelled these practices to be fully unacceptable (37% and 36%). This trend is in line with that of the 1999 survey and the tolerance to the more serious types of punishments is substantially lower than to minor types. A slap in the face was found to be the least acceptable among respondents; although it is “milder” with respect to the degree of violence than giving a beating (Vymětalová, 2001), it is still perceived as a less acceptable child rearing practice. A likely explanation may lie in the fact that a slap is often a parent’s spontaneous response to a conflict with their child and not a well-justified “educational” punishment of a serious misdemeanor of the child.

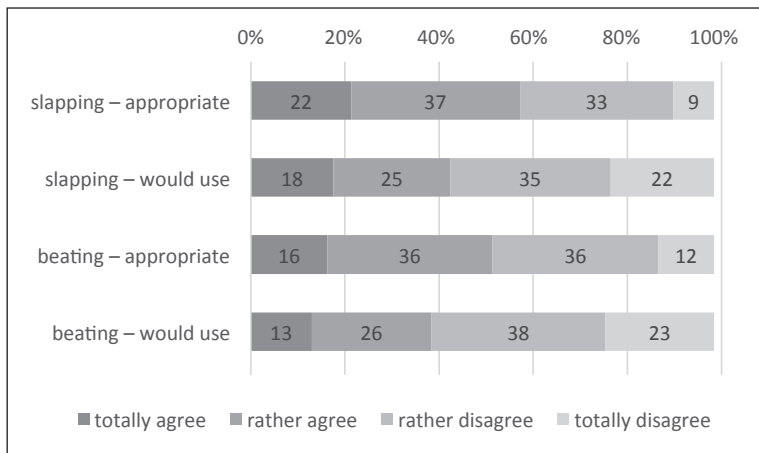


**Figure 1:** “When raising their children, parents often use a variety of disciplinary measures. To what extent do you personally view the following to be acceptable forms of punishment?”  
Source: “Aktér 12-2011”

A widespread tolerance to CP across Czech society is also obvious from the fact that the attitudes towards the analyzed types of CP are not substantially varied across the different socio-demographic characteristics of the respondents, such as gender, age, ethnicity, education, social status, and size of town. When a regression model which incorporated these indicators was estimated, only a 3.9% variance in the indicator showing

acceptability of CP was explained.<sup>3</sup> It is likely that a more pronounced effect might be associated with the respondents' personal experience with CP in childhood and their personal experience with raising their own children. These relationships will be examined later in the section on intergenerational transmission of CP.

An interesting comparison of these results can be gained by analyzing data from the UYS which targeted 9<sup>th</sup> grade adolescents (i.e. 15-years-old on average). A different methodological approach was applied in this case and adolescents were presented with two short scenarios in which a parent uses a certain type of CP (a slap and giving a beating) towards someone of their age.<sup>4</sup> We were then interested to see if adolescents found these punishments appropriate and whether they would act the same if they were in the position of the parent. About one half of the adolescents (59% and 49% respectively) evaluated the punishments as appropriate and about four out of ten adolescents (43% and 39%) agreed that they would act the same way if they were in the position of the parent (see, Figure 2). The attitude to CP<sup>5</sup> was somewhat more positive among boys than among girls and there was also a weak correlation to the parents' education.



**Figure 2:** Adolescent evaluation of selected types of corporal punishment.  
Source: UYV (2015)

<sup>3</sup> The indicator of acceptability of CP was constructed as a mean of the four questions on CP (see, Figure 1). Higher values indicate a higher acceptance of CP. The reliability of the scale is good (Cronbach's alpha = .70).

<sup>4</sup> Scenario 1: "The mother asks 15-year-old Matthew to finally clean his room like he promised yesterday. He retorts that he doesn't have time and goes back to looking at something in his mobile phone. The mother slaps Matthew in the face."

Scenario 2: "Ninth graders Jacob and Peter get into a fight on their way home from school. An agitated Jacob shoves Peter, who ends up falling and ripping his new jeans. Peter's parents later call up Jacob's parents, asking for 2000 CZK in reparations. Jacob gets a beating from his parents."

<sup>5</sup> The indicator "attitude to CP" was constructed as a mean of the four questions on CP (see, Figure 2). Higher values indicate a higher approval of CP. The reliability of the scale is good (Cronbach's alpha = .70).

Hence, it is clear that the acceptance of CP is substantially greater among adolescents than among adults. The reasons for this discrepancy might be manifold. First of all, the method based on scenarios might yield a higher approval rate since it depicts specific situations which are easy to imagine, unlike unspecific questions on the acceptability of CP. In addition, adults are usually more inclined to give socially desirable answers than children. Furthermore, research results by Straus and Donnelly (2006) suggested that it is quite usual that parents disapprove of CP but use it anyway. In the following section, we draw our attention to the actual experience of adolescents with CP and later we also attempt to assess the level of correspondence between this experience and their attitude to CP.

### **Corporal punishment of adolescents by parents in CZ**

Information on the extent and seriousness of the corporal punishment of adolescents by their parents can be obtained from the “Urban Youth Survey” (2015) in which we asked about the frequency of the occurrence of selected types of violence by parents in the previous 12 months. The survey included adolescents who were, on average, 15 years old. Studies from the United States – which are very similar to CZ in terms of the extent of use and approval rate of CP – show that although the parental use of violence against children declines with the age of their offspring, it is far from infrequent among adolescents. For instance, a study by Straus and Stewart (1999) showed that whereas almost all young children (94%) at the ages of 4 and 5 had been hit by their parents during the previous year, among 15-year-old adolescents, the proportion was “only” 30%. Similarly, we can expect that the prevalence rates of CP reported by Czech adolescents would be considerably higher if we focused on younger children.

In this section, we will, first, report prevalence rates of different types of CP in the population of Czech adolescents and outline a CP typology which will be used in later analyses. Then, the categories of the CP typology will be described with respect to differences in socio-demographic variables and, most importantly, the association with indicators on parenting and conflicts/violence between parents will be examined.

#### **Prevalence and typology of CP**

The UYS study inquired about adolescent experience with five types of physical violence used by their parents against them in the previous year (see, Table 1). The results show that almost half of the adolescents (43%) reported some type of moderate CP (beating, slap, etc.) and 15% admitted that it was not an isolated incident. The most frequent type of violence was a slap in the face which about one third of adolescents (36%) reported, and out of those each third received it repeatedly. These findings clearly demonstrate that Czech parents do not hesitate to use CP even against their teenage offspring. More severe types of CP (e.g. a punch and beating up) which might be classified as child abuse, were reported by each eleventh adolescent (9%) and, again, one third of them admitted more than just one or two incidents.



**Table 1:** Physical violence by parents during the previous year.

	prevalence		frequency (%)		
	n	%	once or twice	3-5 times	more often
gave you a beating	341	22.5	14.1	4.2	4.2
slapped you in the face	539	35.6	24.1	6.3	5.2
grabbed you, shoved you, or threw something at you	217	14.3	9.2	2.4	2.6
<b>moderate CP – total</b>	<b>653</b>	<b>42.9</b>	<b>27.8</b>	<b>8.0</b>	<b>7.1</b>
kicked or punched you or hit you with an object	105	6.9	4.1	1.2	1.6
beat you up	86	5.7	3.4	.6	1.6
<b>serious CP – total</b>	<b>141</b>	<b>9.3</b>	<b>5.8</b>	<b>1.4</b>	<b>2.0</b>

Source: UYV (2015)

Note: Valid percentages are reported.

Based on the above-outlined occurrence of CP by parents, we classify adolescents into four categories (CP typology):

- *no CP* – no type of violence by parents during the previous year is reported (57% of adolescents),
- *minor CP* – only one type of moderate CP is reported and it occurred only once or twice (17%),
- *moderate CP* – only moderate types of CP are reported – either at least two types of them occurred or the frequency was more often than once or twice (17%),
- *serious CP* – at least one type of serious CP is reported (9%).

Further analysis has shown that almost all adolescents from the serious CP category reported an occurrence of moderate CP as well, precisely 89% would meet the conditions to fall into the moderate CP category. The CP typology can thus be well-considered as an ordinal scale. The typology will be utilized to examine if there are any differences among adolescents with different degrees of CP by parents in terms of their socio-demographic characteristics, family relations and parenting practices; in the last section, the CP typology will be used in an analysis of the transmission of violence.

The advantage of the CP typology lies in the fact that it attempts to differentiate between different levels of CP severity and enables us to analyze the (dis)similarities between these categories. First, the serious CP category is, of course, of utmost interest because such a severity of violence might already be classified as child abuse. Hence, we will focus on the comparison of this category with the less severe ones. Second, the minor CP category deserves particular attention as well. Even though the use of CP is rare in this category, given the fact that the prevalence and frequency of CP tend to decrease with the age of the child (Straus & Donnelly, 2006; Straus & Stewart, 1999), it is highly likely that these adolescents used to be subjected to CP more often when they were younger. Therefore, we will examine to what extent this category is (dis)similar to the no CP category.

Table 2 shows the association between the CP typology and socio-demographic indicators, namely gender, ethnicity, family structure, relative family income, and parental education. The only insignificant association is found for gender; however, the other



relationships are all merely weak ones (Cramer's  $V < .10$ ). Significant differences are often identified in the serious CP category – it is more prevalent among non-Czech adolescents compared to Czechs (16% vs. 8%), among adolescents living in incomplete families compared to complete ones (12% vs. 8%) and the prevalence decreases as the parents' education level increases. A different pattern is observable in the case of relative family income, where adolescents from families with a lower income than others are more often found in the moderate CP category and less often in the no CP category compared to adolescents from families with a higher income.

**Table 2:** The association between the CP typology and selected individual characteristics (row %).

	no CP	minor CP	moderate CP	serious CP	Cramer's $V^a$
Count	856	262	253	139	
%	56.7	17.4	16.8	9.2	
Gender					
male	57.5	15.6	17.9	9.0	.05
female	55.7	19.1	15.7	9.4	
Ethnicity					
Czech	57.0	<b>18.0</b>	16.6	<b>8.4</b>	.09**
other	55.2	<b>11.2</b>	17.5	<b>16.1</b>	
Family structure					
both biological parents	57.6	18.7	16.1	7.7	.08*
other	55.4	15.3	17.8	<b>11.5</b>	
Relative family income					
lower than others	<b>48.2</b>	16.3	<b>22.9</b>	12.7	.08*
same or higher than others	<b>57.4</b>	17.6	<b>16.1</b>	8.8	
Parental education <sup>b</sup>					
lower than high school	52.5	14.9	18.6	<b>14.0</b>	.07*
high school	58.4	16.8	15.9	8.9	
university	56.4	18.9	17.9	<b>6.8</b>	

Source: UYV (2015)

<sup>a</sup> reported is the significance of the chi-square test

<sup>b</sup> the highest educational level obtained by either of the parents

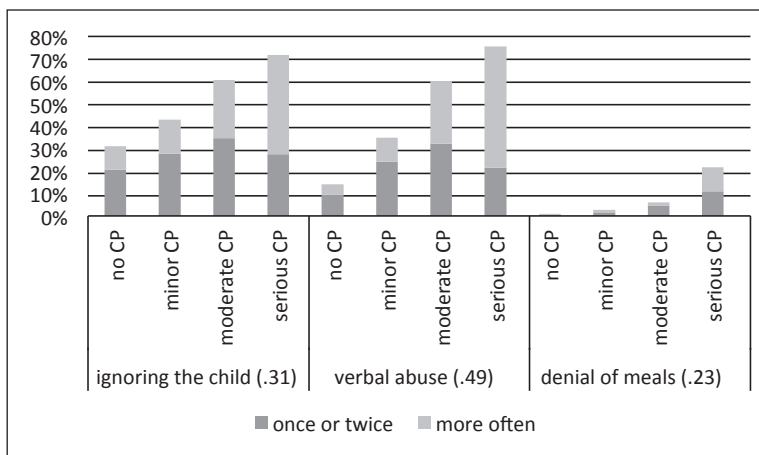
Note: Significant standardized adjusted residuals are highlighted in bold.

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ .

### Family situation – parenting style and parental conflicts

As demonstrated above, adolescents from different categories of the CP typology are not too dissimilar in terms of family background. In this section, we will examine if the same applies to the nature of the interactions within the family, specifically focusing on the association of the use of CP by parents and other aspects of the parenting style, relationships between the children and parents and between the parental couple themselves.

First, we analyze the co-occurrence of the use of CP and other selected adverse types of punishments, namely ignoring the child, verbal abuse, and denial of meals. Figure 3 clearly demonstrates that there are considerable differences among the four categories of the CP typology and apart from the prevalence rate, it is also the frequency which increases. The strongest relationship is identified for verbal abuse ( $\rho = .49$ ) which is rather sporadic among adolescents who had not experienced CP (14%) and sharply increases with each category of the CP typology – up to 76% in the serious CP category; moreover, these adolescents usually reported a more frequent occurrence of verbal abuse compared to the other categories of the CP typology. A similar pattern is observable in the case of ignoring the child, though this relationship is somewhat weaker ( $\rho = .31$ ). Denial of meals as a form of punishment is classified as child abuse and is almost non-existent among adolescents from the no CP and minor CP categories; however, it was reported by 6% of adolescents from the moderate CP category and even by 22% from the serious CP category.



**Figure 3:** Co-occurrence of corporal punishment and other selected types of punishment.

Source: UYV (2015)

Note: Spearman's rho is reported in brackets.

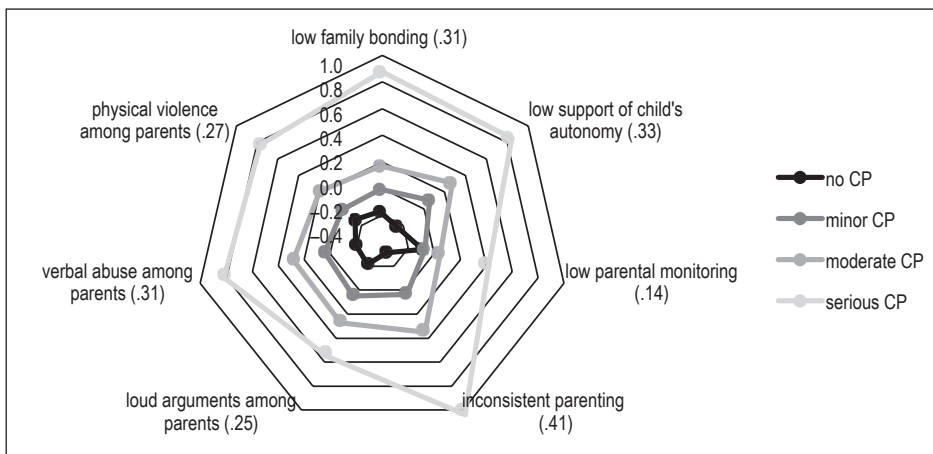
This first analysis has already indicated that CP by parents frequently co-occurs with other adverse parenting practices, which is not specific to the serious CP category alone, but is observable in the continual increase throughout the whole CP typology. Thus, we were interested to see if the use of CP by parents is associated with other aspects of family life as well, namely a worse child-parent relationship, negative parenting style and conflicts – or even violence – between parents. Overall, four aspects related to the parenting style were examined in this study – the quality of the child-parent bond, parental support of the child's autonomy, the extent of parental monitoring, and consistency of parenting.<sup>6</sup>

<sup>6</sup> The indicators of the quality of the child-parent bond, parental support of the child's autonomy, the extent of parental monitoring, and consistency of parenting were constructed as means of the relevant set of questions. The first three scales consisted of at least 4 items and their reliability was good, with all Cronbach's alphas > .70. The scale measuring inconsistent parenting consisted of only 2 items and,

With respect to the relationship between the parents, we inquired about the frequency of loud arguments, verbal abuse, and physical violence between parents.<sup>7</sup>

Analysis of variance has confirmed that there are differences in these family-related variables among the groups of adolescents based on the CP typology (based on F-test,  $p < .001$ ). The results are visualized in Figure 4. Again, the increase in the severity of CP is related with a worse child-parent bond, a more inappropriate parenting style, and more frequent conflicts and violence between parents. Among parenting-related indicators, the strongest association with the use of CP is inconsistent parenting ( $\eta = .41$ ) and a lack of autonomy support from the parents ( $\eta = .33$ ). In both cases, the differences are considerable among all levels of the CP typology. On the other hand, in the case of family bonding and parental monitoring, a large difference is found primarily between the serious CP category and the other ones.

Whereas conflicts in the form of loud arguments between parents are present in the majority of families (74%), verbal abuse between parents was reported by about one third of adolescents (39%) and physical violence only by one seventh (14%). The association of these factors and the CP typology is, again, moderately strong, with the values of the eta coefficient between .25 and .31. In the case of loud arguments, the relationship with the CP typology is relatively linear; on the other hand, regarding both verbal and physical violence, it is particularly the serious CP category which is distinctly different from the others.



**Figure 4:** The association between family-related factors and the CP typology.

Source: UYV (2015)

Note: Eta coefficients are reported in brackets.

correspondingly, its reliability was somewhat lower ( $\alpha = .68$ ). All scales were standardized for the purpose of visual representation in Figure 4.

<sup>7</sup> The indicators of the frequency of loud arguments and verbal abuse among parents were measured by single questions with 5-point scales. The indicator of the frequency of physical violence among parents was constructed as a mean of 2 questions inquiring about slapping and kicking/punching/hitting with an object. The reliability of this scale was good ( $\alpha = .74$ ). All three indicators were standardized for the purpose of visual representation in Figure 4.

Our results have clearly shown that the use of CP by Czech parents is commonplace. The prevalence rate in the previous year reached 43% among 9<sup>th</sup> grade adolescents (15 years old on average) and it is highly likely that the proportion is considerably larger among younger children (c.f., Straus & Stewart, 1999). The most frequent types of violence were slaps, but more severe types of punishment were also not entirely rare – their prevalence rate reached 9%. These adolescents differ noticeably from their peers, particularly with respect to a family environment that is more often affected by conflicts and violence between parents, more frequent negative parenting practices, and a weaker child-parent bond. These findings are not surprising as the link between child abuse and negative aspects of the family environment have been well-documented. Our findings, however, also suggest that less severe and even sporadic CP is associated with a somewhat more negative nature of the family environment compared to families in which parents do not use violence against their adolescent offspring at all. Even though this study does not allow us to draw conclusions on the causality of these relationships, it seems that CP often co-occurs with other adverse parenting practices and is likely to contribute to worsened relations in the family (see also, Gershoff, 2010; Straus & Donnelly, 2006).

### **Intergenerational transmission of violence**

The hypothesis of the intergenerational transmission of violence suggests that children exposed to violence in the family are more prone to using violence themselves, i.e. are more often involved in violent delinquency and crime, abuse their own children, commit IPV, etc. The most common explanation of the mechanism of this transmission stems from social learning theory, according to which these children learn to perceive violence as a legitimate means of conflict resolution in their relationships with others. The ideal research design for an examination of such a transmission is a prospective longitudinal study, which is, however, very rare in social sciences, particularly due to its high financial and organizational costs and long duration before it can yield results. There are no such studies focusing on violence in CZ and, therefore, we have to rely on standard cross-sectional surveys. Consequently, evidence in support of the transmission of violence will only be indirect, based on statistical relationships between the exposure to violence in the family – specifically being subjected to CP by parents and witnessing IPV between parents – and the declared attitude to CP/violence, violent behavior, and violent victimization. The presented analyses are divided into three sections: first, we focus on attitudes towards CP/violence; second, we examine the relationship between adolescent exposure to violence in the family and delinquency and victimization; third, we analyze the link between IPV in adulthood and the exposure to violence in the family of origin in childhood.

#### **Attitudes towards corporal punishment and violence**

We begin the examination of the intergenerational transmission of violence with an analysis of the association between the exposure to violence in the family in childhood and attitudes towards CP and, in the case of adolescents, also towards violence in general.

Analyzed data come from both the UYS survey and the “Aktér 12-2011” study; results for adolescents and adults can thus be compared. With respect to adolescents, it is assumed that experience with CP should considerably affect the attitude to CP. Adolescents who had not been physically punished by their parents in the previous year are expected to show lower levels of CP approval, whereas among the others, their attitude to CP might be contingent on their perception of CP by their parents as either well-deserved or unfair. We suggest that the acceptance of CP is related to the quality of the child-parent bond. If the bond is strong, adolescents are more likely to accept CP as a legitimate educational practice from loving parents; in contrast, if the bond is worse, CP is more likely to be perceived as undeserved and the acceptance of CP in general would then be lower. In terms of the adult population, we expect that the formation of the attitude to CP is directly affected by experience with CP from childhood and that it might also be somewhat impacted by personal experience with raising their own children.

First, we analyze the situation among adolescents by testing regression models including the CP typology while controlling for individual background variables as well (see Table 3).<sup>8</sup> In addition, the adolescent witnessing of IPV between parents is also incorporated in the models to reflect another type of violence in the family. The first Model 1 for adolescent attitudes to CP confirms that the extent of CP impacts the adolescent’s approval of the use of CP by their parents. Adolescents who had experienced minor CP by their parents during the previous year expressed a somewhat more positive attitude to CP ( $b = .48$ ) than their peers whose parents did not use CP; among adolescents from the moderate CP and serious CP categories, the difference was even higher ( $b = .83$  and  $.78$ ). On the other hand, the effect of IPV between parents was not significant. The inclusion of the CP typology in the model increases the explained variance in the attitude to CP by  $.028$ , hence the transmission effect is rather weak.

The following Model 2 tests the hypothesis outlined above and extends Model 1 by incorporating the family bonding indicator<sup>9</sup> and its interaction with the CP typology. The results are in agreement with the hypothesis. Family bonding does not show any impact on the attitude to CP among children who had not experienced CP by parents during the previous year; however, among children who had experienced CP, stronger family bonding is associated with a more positive attitude to CP. This outcome supports the hypothesis that children with a good relationship to their parents might accept CP from them as a legitimate means of child rearing, whereas children with poor family relations might feel they are being mistreated by their parents and hence are more inclined to disapprove of CP in general. Furthermore, Model 2 reveals a significant effect of IPV between parents which is related to a more positive attitude to CP, though its impact is rather weak.

The last Model 3 in Table 3 focuses on the attitude to violence and examines whether the exposure to CP and witnessing IPV between parents are associated with a greater

---

<sup>8</sup> The computation of the attitude to CP scale is described in Footnote 4. The attitude to violence indicator was constructed as a mean of 6 questions. The reliability of this scale was very good ( $\alpha = .82$ ). Both indicators were linearly transformed to reach values from 0 to 10, where higher values indicate a more positive attitude towards CP/violence.

<sup>9</sup> The construction of the family bonding variable is described in Footnote 5. A standardized variable is used in which higher values indicate stronger family bonding.

approval of violence. Both variables have a significant impact on the attitude to violence; the largest contribution to the increase of violence approval was found in the serious CP category in comparison to the no CP category. The overall contribution of both experience with CP and witnessing IPV between parents is – similarly as in the attitude to CP – relatively weak, since the change in adjusted  $R^2$  is only .035. Nevertheless, the weak association between the experience with CP and both attitude to CP and attitude to violence may be partly caused by the fact that we measure the extent of CP in the previous year only and do not take earlier experiences with CP into account.

**Table 3:** OLS regression models for attitude to CP and attitude to violence among adolescents.

	Model 1 – attitude to CP		Model 2 – attitude to CP		Model 3 – attitude to violence	
	b	beta	b	beta	b	beta
Constant	5.244		5.471		2.835	
Gender (female)	.680	.148***	.607	.132***	1.145	.267***
Ethnicity (non-Czech)	.202	.024	.179	.021	-.115	-.015
Family structure (incomplete)	.235	.050	.202	.043	.019	.004
Family income	.099	.049	.055	.027	.112	.060*
Parents' education	-.539	-.175***	-.522	-.170***	-.252	-.089***
CP: minor (none)	.478	.080**	.434	.073***	.420	.075**
CP: medium (none)	.834	.137***	.903	.148***	.688	.120***
CP: serious (none)	.779	.095***	1.140	.139***	1.025	.136***
Witnessing IPV (no)	.346	.053	.478	.073*	.518	.084**
Family bonding			-.046	-.019		
CP: minor * family bonding			.403	.073*		
CP: moderate * family bonding			.590	.103**		
CP: serious * family bonding			.511	.099**		
<i>adj. R<sup>2</sup></i>		.077		.091		.118
<i>N</i>		1277		1277		1401
<i>F change</i>				6.06***		

Source: UYV (2015)

Note: Reference category is stated in brackets. Adjusted  $R^2$  for models including only control variables: .049 for attitude to CP and .083 for attitude to violence.

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ .

Second, we test a similar model for attitude to CP among adults (Table 4).<sup>10</sup> Model 4 reveals that the exposure to CP in childhood<sup>11</sup> has a considerable impact on the current attitude to CP, however, the relationship is not entirely linear. Specifically, the

<sup>10</sup> The construction of the attitude to the CP variable is described in Footnote 2. The higher values indicate a more positive attitude towards CP (the scale ranges from 1 to 4).

<sup>11</sup> The question inquired about the frequency of receiving moderate or severe CP by parents (a slap, getting a beating, etc.) during the respondent's childhood.

largest increase in CP approval is between respondents without any experience with CP and those who experienced it only seldom ( $b = .33$ ); in the other cases, each rise in frequency increases the approval rate more or less linearly. The increase in adjusted  $R^2$  associated with the experience with CP in childhood (.098) is substantially greater compared to in adolescence. Although it is plausible that the transmission of violence might be more pronounced among adults, it should be emphasized that retrospective measures are generally less reliable and adults' answers on the frequency of CP by their parents in their childhood might be affected by their current attitudes and experiences.

Furthermore, we have also tested an interaction term between CP in childhood and an indicator whether the respondent has children themselves, since their own experience with child rearing might alter their perception of appropriate parenting practices (results not presented here). However, no such effect was revealed in our data.

**Table 4:** OLS regression model for attitude to CP among adults.

	Model 4 – attitude to CP	
	b	Beta
Constant	2.245	
Gender (female)	.088	.075**
Age	.002	.062
Ethnicity (non-Czech)	-.003	-.001
Education	-.032	-.049
Subjective social class	-.043	-.054
Town size	.031	.078**
Children (no)	.006	.005
CP: very often (never)	.695	.263***
CP: often (never)	.501	.290***
CP: sometimes (never)	.457	.344***
CP: seldom (never)	.325	.267***
<i>adj. R<sup>2</sup></i>	.136	
<i>N</i>	1085	

Source: "Aktér 12-2011"

Note: Reference category is in brackets. Adjusted  $R^2$  for a model including only control variables: .038.

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ .

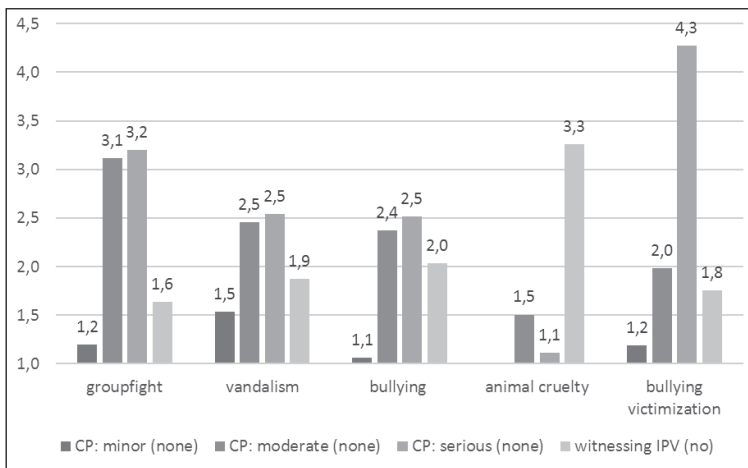
### Adolescent violent behavior and victimization

Next, we draw attention to the association between adolescent exposure to violence in the family and their delinquent behavior and victimization by peers. A series of logistic regression models were estimated to evaluate the impact of the CP typology and the witnessing of IPV between parents on four indicators of violent delinquency – involvement in a group fight, vandalism, bullying, and animal cruelty – and one violent victimization

variable, namely bullying.<sup>12</sup> The results are visualized in Figure 5. First, with respect to common violent delinquency, i.e. group fighting, vandalism, and bullying, a similar pattern is discernible. An experience with CP increases the odds of delinquency only for the moderate and serious categories (compared to the no CP category) and the largest effects are found for group fighting (both AORs > 3). On the other hand, witnessing IPV between parents has only a modest effect.

Second, a specific situation is revealed for animal cruelty in which case it is only the witnessing of IPV which has an effect and, moreover, its size is substantial (AOR = 3.3). The association between cruelty to animals and the exposure to violence in the family has been well-documented by previous research (e.g., Baldry, 2003; Currie, 2006), though with respect to corporal punishment, a study by Flynn (1999) suggested that this effect might depend on the gender of both the child and the parent. Our study enables us to analyze gender differences only among adolescents and a test of such an interactional effect (not presented here) does not show significantly different outcomes for boys and girls.

Third, in the case of bullying victimization, it is, primarily, experience with serious CP which increases the odds of being victimized (AOR = 4.3). This is congruent with the results of a meta-analytical study by Lereya, Samara, and Wolke (2013) which shows that abuse, neglect, and maladaptive parenting is moderately associated with bullying victimization.



**Figure 5:** Associations between violence in the family and violent delinquency/victimization (adjusted odds ratios – AORs).

Source: UYV (2015)

Note: Reported are adjusted odds ratios (controlled for gender, ethnicity, family structure, family income, and parents' education).

<sup>12</sup> Bullying was limited to incidents involving physical assault. All indicators on delinquency and victimization capture previous year prevalence.



## Intimate partner violence

Lastly, we also take the opportunity to analyze data on intimate partner violence which include information about both the victim's and offender's backgrounds with respect to serious CP from their parents and the occurrence of IPV between their parents during their childhood.<sup>13</sup> However, a certain disadvantage of the dataset is that it is based on reports from victims only and, therefore, information on offenders is indirect and might be partly inaccurate. A logistic regression model for victimization by IPV was estimated separately for males and females (see, Table 5). Results show that neither the respondent's nor the partner's experience with CP in childhood is associated with an increased risk of victimization by IPV in adulthood. However, witnessing IPV between parents in childhood is significantly related to perpetrating IPV in adulthood, with the AOR being 4.6 for partners of male respondents and even 6.4 for partners of female respondents. In addition, the respondent's witnessing of IPV between parents is associated with an increased risk of victimization among males, the AOR being 2.9.

In summary, our results have confirmed that witnessing IPV between parents during childhood makes people more prone to using violence against their partners in adulthood whereas exposure to CP has shown no additional influence on violent behavior against intimate partners. Interestingly, a female's exposure to violence in the family in childhood has no effect on her risk of becoming a victim of IPV in adulthood.

**Table 5:** Logistic regression models for victimization by IPV by gender.

	Male respondents AOR	Female respondents AOR
<b>RESPONDENT'S FEATURES</b>		
Education	1.17	1.30
Low subjective household income	.87	1.67***
Alcohol use	.75*	.69***
IPV in family of origin (no)	2.85**	1.51
Serious CP in family of origin (no)	.67	1.61
<b>PARTNER'S FEATURES</b>		
Education	.46***	.54***
Alcohol use	1.84***	2.58***
IPV in family of origin (no)	4.56***	6.36***
Serious CP in family of origin (no)	1.18	1.07
<i>Nagelkerke R<sup>2</sup></i>	.19	.38
<i>N</i>	824	943

Source: Intimate Partner Violence (2012/2013)

Note: Included are respondents who have had a violent partner and respondents who have a partner (violent or not) at present; Reference category is in brackets.

\*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ .

<sup>13</sup> All four indicators used in the analysis measure the occurrence of IPV or CP in childhood (1 = yes, 0 = no/don't know).

## Assessment of the intergenerational transmission of violence hypothesis

Overall, our findings lend further support to the intergenerational transmission of violence hypothesis, though the mechanism does not seem to be universal, i.e. it is not true that any exposure to violence in the family is associated with more positive attitudes to CP and violence, greater involvement in delinquency, greater risk of IPV in relationships, etc. First, the outcomes suggest that experience with CP affects, to a certain degree, the personal attitude to CP both in adolescence and adulthood and if CP is moderate or serious, it is also associated with larger adolescent involvement in violent delinquency compared to other peers. Second, the witnessing of IPV in the family of origin, unlike experience with CP, is particularly associated with an increased risk of perpetrating IPV in adulthood. In accordance with previous research, it also poses as a significant risk factor for the cruel treatment of animals in adolescence.

### Conclusion

The Czech Republic belongs to the minority of European countries that not only have not banned CP in the family yet but show no commitment to do so in the near future (Global Initiative, 2016b). This constitutes a clear violation of two international treaties – the European Social Charter and the Convention on the Rights of the Child – both of which the Czech government has ratified. The results of the analyses presented in this article imply that the concern of politicians that a total ban on CP would not be well-received by the public is likely to be substantiated.

The use of CP in Czech families is widespread, as the previous year prevalence rate for 15-year-old adolescents reached a staggering 43% and experience with severe types of CP was reported by 9%. Not surprisingly, the level of adolescent approval of CP is high and many adolescents perceive CP as a legitimate means of child rearing. On the other hand, the findings on attitudes towards CP among adults suggest that they are largely aware that slapping or giving their child a beating are not ideal parenting practices, although it is clear that many of them use (or have used) CP regardless. This paradox has already been discussed by Straus and Donnelly (2006), whose primary explanation for the phenomenon lies in the social pressure to physically punish disobedient children. Nevertheless, a disapproving attitude does not apply to minor types of CP, such as a smack in the back of the head or spanking, which are almost universally perceived as acceptable punishments in the eyes of Czech adults.

As the use of CP is widespread within Czech families and minor types of CP are considered standard child rearing practices, it is widely believed that CP does not have a harmful impact. Although our results cannot prove causal relationships, they clearly show that: parents of 15-year-old adolescents who use CP are more likely to employ other negative parental practices as well, there are more conflicts and even violence between these parents and, consequently, the child-parent bond is weaker compared to parents who do not physically punish their children. In addition, 15-year-old adolescents who have experienced parental CP during the past year are more likely to be involved in vio-

lent delinquency compared to their peers who have not. These relationships are especially pronounced for adolescents who report serious CP; however, even sporadic, moderate CP is associated with a somewhat increased risk as well.

Our results thus contribute to a large body of research (see, e.g. Gershoff, 2002) which suggests that the use of CP by parents is likely to negatively affect various aspects of the child's life, including the tendency of the child to replicate this parenting practice in adulthood when raising their own children. Furthermore, proponents of the total ban of CP in all settings argue that children, like adults, should be legally protected against all forms of violence and that includes violence in the home as well (e.g. Gershoff, 2010); however, pushing such a piece of legislation in the absence of popular support for a ban on CP – which is the case in Czech society – is not advisable (Zolotor & Puzia, 2010). It is thus a task for Czech professionals from various fields to first initiate public debate on this issue and, above all, to offer appropriate alternatives to CP.

## REFERENCES

- Baldry, A. C. (2003). Animal abuse and exposure to interparental violence in Italian youth. *Journal of Interpersonal Violence*, 18(3), 258–281.
- Buriánek, J., Pikálková, S., Podaná, Z., & Kolínská V. (2016). *Abused, Battered, or Stalked: Violence in Intimate Partner Relations Gendered*. Praha: Karolinum.
- Currie, C. L. (2006). Animal cruelty by children exposed to domestic violence. *Child abuse & neglect*, 30(4), 425–435.
- Council of Europe. (2015). *Progress towards prohibiting all corporal punishment in Council of Europe member states*, November 2015. Council of Europe. Retrieved from <https://rm.coe.int/CoERMPublic-CommonSearchServices/DisplayDCTMContent?documentId=090000168048c8b2>
- Dobash, R. E. & Russell P. D. (1979). *Violence Against Wives. A Case Against the Patriarchy*. New York: The Free Press.
- Durrant, J. E. (1999). Evaluating the success of Sweden's corporal punishment ban. *Child abuse & neglect*, 23(5), 435–448.
- Fagan, A. A. (2005). The relationship between adolescent physical abuse and criminal offending: Support for an enduring and generalized cycle of violence. *Journal of Family Violence*, 20(5), 279–290.
- Ferguson, C. J. (2013). Spanking, corporal punishment and negative long-term outcomes: A meta-analytic review of longitudinal studies. *Clinical Psychology Review*, 33(1), 196–208.
- Flynn, C. P. (1999). Exploring the link between corporal punishment and children's cruelty to animals. *Journal of Marriage and the Family*, 61(4), 971–981.
- Forejtová, N., & Podaná, Z. (2016). *Delikvence a viktimizace mládeže v 9. ročnicích základních škol a odpovídajících ročnicích víceletých gymnázií*. Retrieved from <http://sites.ff.cuni.cz/ksoc/wp-content/uploads/sites/76/2016/12/vyzkum-mladez-2015.pdf>
- Gershoff, E. T. (2002). Corporal punishment by parents and associated child behaviors and experiences: a meta-analytic and theoretical review. *Psychological bulletin*, 128(4), 539–579.
- Gershoff, E. T. (2010). More harm than good: A summary of scientific research on the intended and unintended effects of corporal punishment on children. *Law and Contemporary Problems*, 73(2), 31–56.
- Global Initiative to End All Corporal Punishment of Children. (2016a). *Corporal punishment of children in the Czech Republic*. Global Initiative to End All Corporal Punishment of Children. Retrieved from <https://www.endcorporalpunishment.org/assets/pdfs/states-reports/CzechRepublic.pdf>
- Global Initiative to End All Corporal Punishment of Children. (2016b). *Prohibiting all corporal punishment of children: progress and delay*. Global Initiative to End All Corporal Punishment of Children. Retrieved from <https://www.endcorporalpunishment.org/assets/pdfs/reports-global/Progress-delay-2016-03.pdf>

- Holt, S., Buckley, H., & Whelan, S. (2008). The impact of exposure to domestic violence on children and young people: A review of the literature. *Child abuse & neglect*, 32(8), 797–810.
- Kubáľková, P., & Drchal, V. (2008, April 8). Češi pro tělesné tresty dětí. *Lidové noviny*. Retrieved from [https://www.lidovky.cz/cesi-pro-telesne-tresty-deti-dg8-/zpravy-domov.aspx?c=A080408\\_110718\\_In\\_domov\\_hel](https://www.lidovky.cz/cesi-pro-telesne-tresty-deti-dg8-/zpravy-domov.aspx?c=A080408_110718_In_domov_hel)
- Larzelere, R. E., & Cox, R. B. (2013). Making valid causal inferences about corrective actions by parents from longitudinal data. *Journal of Family Theory & Review*, 5(4), 282–299.
- Lereya, S. T., Samara, M., & Wolke, D. (2013). Parenting behavior and the risk of becoming a victim and a bully/victim: A meta-analysis study. *Child abuse & neglect*, 37(12), 1091–1108.
- Němcová, B. (2008, June 22). Stehlíková se na zákoně proti fackování dětí neshodne ani s Talmanovou. *Mladá fronta Dnes*. Retrieved from [http://zpravy.idnes.cz/stehlikova-se-na-zakone-proti-fackovani-deti-neshodne-ani-s-talmanovou-lz9-/domaci.aspx?c=A080620\\_130356\\_domaci\\_ban](http://zpravy.idnes.cz/stehlikova-se-na-zakone-proti-fackovani-deti-neshodne-ani-s-talmanovou-lz9-/domaci.aspx?c=A080620_130356_domaci_ban)
- Olson, D. A. (1984). The Swedish ban of corporal punishment. *Byu Law Review*, 1984(3), 447–456.
- Sherman, L. W., & Berk, R. A. (1984). The Specific Deterrent Effects of Arrest for Domestic Assaults. *American Sociological Review*, 49(2), 261–272.
- Straus, M. A., & Donnelly, D. A. (2001). *Beating the devil out of them: corporal punishment in American families and its effects on children*. New Brunswick: Transaction Publishers.
- Straus, M. A., Gelles, R. J., & Steinmetz, S. K. (Eds.). (1980). *Behind closed doors: Violence in the American family*. Garden City, N.Y.: Doubleday.
- Straus, M. A., & Stewart, J. H. (1999). Corporal punishment by American parents: National data on prevalence, chronicity, severity, and duration, in relation to child and family characteristics. *Clinical child and family psychology review*, 2(2), 55–70.
- Šťastný, O. (2008, March 7). Ministryně Stehlíková navrhuje zákaz pohlavků a facek dětem. *Mladá fronta Dnes*. Retrieved from [http://zpravy.idnes.cz/ministryne-stehlikova-navrhuje-zakaz-pohlavku-a-facek-detem-pru-/domaci.aspx?c=A080306\\_211041\\_domaci\\_dp](http://zpravy.idnes.cz/ministryne-stehlikova-navrhuje-zakaz-pohlavku-a-facek-detem-pru-/domaci.aspx?c=A080306_211041_domaci_dp)
- United Nations (1989). *Convention on the Rights of the Child*. Retrieved from <http://www.ohchr.org/Documents/ProfessionalInterest/crc.pdf>
- United Nations (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. Retrieved from [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1&Lang=E](http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E)
- Vymětalová, S. (2001). Domáci násilí: přirozený jev. *Sociologický časopis*, 37(1), 103–121.
- Walker, L. E. (1979). *The Battered Woman*. New York: Harper & Row Publishers.
- Widom, C. S., & Wilson, H. W. (2015). Intergenerational transmission of violence. In J. Lindert & I. Levav (eds.), *Violence and mental health* (pp. 27–45). Dordrecht: Springer.
- Zolotor, A. J., & Puzia, M. E. (2010). Bans against corporal punishment: A systematic review of the laws, changes in attitudes and behaviours. *Child Abuse Review*, 19(4), 229–247.

---

**ALCOHOL USE BY YOUTH IN THE CZECH REPUBLIC AND FINLAND:  
AN EMPIRICAL TEST OF SKOG'S THEORY OF THE DISTRIBUTION  
OF ALCOHOL CONSUMPTION<sup>1</sup>**

IVETA ČERMÁKOVÁ

Department of Sociology, Faculty of Arts, Charles University

E-mail: cermakova.iw@gmail.com

ZUZANA PODANÁ

Department of Sociology, Faculty of Arts, Charles University

E-mail: zuzana.podana@ff.cuni.cz

**ABSTRACT**

This article focuses on alcohol consumption among Czech and Finnish youth. First, it describes the situation regarding alcohol consumption in both countries, including trends in consumption in recent years, and, second, it presents and tests the theory of the distribution of alcohol consumption by a Norwegian sociologist Ole-Jørgen Skog, which has had an influence on many alcohol policies. Skog's theory describes the relationship between mean alcohol consumption in a population and the consumption at all levels of consumption (from light to heavy drinkers) and suggests that they are strongly interconnected and are of log-linear nature. Data used in this study come from two large-scale international surveys the "European School Survey Project on Alcohol and Other Drugs" and the "International Self-Report Delinquency" study and cover the period from 2003 to 2013. Results show that alcohol consumption among Finnish juveniles is considerably lower compared to their Czech peers and, moreover, it seems to gradually decrease in the given time period, again, unlike Czech youth. Results concerning the test of Skog's theory are largely consistent with his propositions. The only difference is revealed, specifically it is the group of heavy drinkers – not light drinkers as in Skog's study – which is most affected by changes in mean alcohol consumption in the population.

**Key words:** youth; alcohol; Skog's theory; Czech Republic; Finland

**Introduction**

Consumption of alcohol by children and adolescents is a persistent problem which is often targeted by alcohol policies and countries set different preventive measures to deal with this issue. The tradition of production and consumption of alcohol is very strong in the Czech Republic and the cultivation of raw materials and the production of alcoholic beverages is an important industrial sector as well. Together with low legal regulations regarding the sale and consumption of alcohol, and general tolerance to consumption of alcoholic beverages, people in Czech society are socialized into an environment where alcohol consumption is a commonplace. No wonder then that

---

<sup>1</sup> The study is based on results of Iveta Čermáková's (2016) master thesis. The preparation of this journal article was supported by the Charles University funding scheme Progres Q15.

the Czech Republic ranks among the countries with the highest prevalence of alcohol consumption by adults and even youth (World Health Organization, 2014; Hibell et al., 2012; Kraus et al., 2016).

The main objectives of this article are, first, to describe the situation with respect to alcohol consumption by youth in the Czech Republic and Finland, including the development in recent years. Second, we intend to look at the issue of alcohol consumption among youth through the theory of the distribution of alcohol consumption by Norwegian sociologist Ole-Jørgen Skog (1985), who claims that alcohol consumption in a society has a very strong collective character and the mean consumption of alcohol in a society affects consumers at all levels of consumption (from light to heavy drinkers). To empirically test this theory, we use data from two international surveys which focused – at least partly – on alcohol consumption of youth, namely the “European School Survey Project on Alcohol and Other Drugs” (ESPAD) and the “International Self-Report Delinquency” study (ISRD).

The analysis presented in this article is conducted on data from the Czech Republic and Finland. The reason for the inclusion of a second country as a comparison is mainly methodological. For a better verification of Skog’s theory, it is convenient to test the model on data from countries, which have different trends in alcohol consumption as well as different prevalence rates of consumption. (e.g., Hibell et al., 2012).

## **Skog’s theory of the distribution of alcohol consumption**

According to our knowledge, Skog’s (1985) theory has rarely been addressed by Czech researchers (e.g. Kubička et al., 1998), although it is quite significant in the field of alcohol use and it has influenced many alcohol policies. Its fundamental pillar is that the average alcohol consumption in the society has a significant effect on the individual consumption. Skog formulated two hypotheses about human drinking behavior in the framework of his theory:

### **1. Hypothesis of the multiplicativity of effects**

Individual behavior in the area of alcohol consumption is influenced on the one hand by biological and psychological factors and on the other hand by environmental factors. In short, individual alcohol consumption behavior is influenced by a large number of more or less dependent factors, which combine and recombine themselves to create such behavior. The factors affecting the individual drinking behavior mutually interact and tend to have a multiplicative effect. The hypothesis of the multiplicativity of effects was tested by Skog (1985) on panel data and his conclusion was that the relationship between the individual level of consumption in two following years, was indeed log-linear (i.e. multiplicative).

### **2. Hypothesis of the mechanism of social interaction**

Drinking behavior and habits are strongly influenced by friends, more generally, by personal social networks, where family or friends influence the drinking behavior directly or indirectly.

These two above described hypotheses lead to these two consequences:

*1a. The consequence of the multiplicativity of effects – skewness of the distribution*

The multiplicativity of effects results in a skewness of the distribution of alcohol consumption in which the arithmetic mean is usually considerably higher than the median. Skog (1985) analyzed data from 9 different countries, which consisted of 21 populations. His conclusion was that the average consumption was typically double compared to the median in all populations. Nevertheless, the skewness is generally less pronounced in populations with a high average consumption of alcohol. Skog also challenged the idea that the end of the distribution of alcohol consumption comprises only a small group of extreme cases, i.e. alcoholics. It is clear that alcoholics cannot be the reason for the skewness of the distribution, and therefore the distribution of “normal drinkers” must be skewed as well.

*2a. The consequence of the mechanism of social interaction – collectivity of drinking cultures*

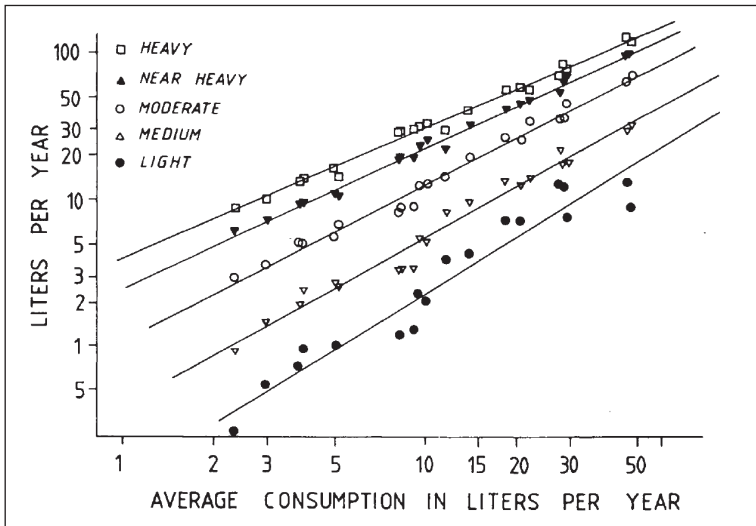
Since individual drinking behavior is influenced by social networks, both directly and indirectly, changes in drinking behavior are necessarily a group phenomenon. The whole population can be considered a huge social network, since it is a system of actors, who are bound by different social relations that coordinate their behavior. Each actor is influenced by a small group of his acquaintances, but he is also influenced indirectly by a large group of other people. Thus, each individual is directly or indirectly affected by every member of his own culture. The strength of ties in the social network affects the speed and efficiency of the transmission of impulses, leading to synchronized changes of social groups throughout the society. On this basis, Skog (1985) builds the foundation of his theory and proposes that such a synchronization also appears in social networks of alcohol drinkers. Consequently, each individual adapts his individual alcohol consumption behavior to the mean level of consumption in his culture.

On the basis of his empirical data analysis, Skog (1985) concluded that the collective drinking culture exists. Moreover, if there are changes in consumption, we can expect that they also include changes in consumption patterns and habits among consumers at all levels of consumption. Therefore, drinking culture cannot be seen as an aggregate of independent individuals, but rather as a highly-organized system of interconnected actors. It follows that statistical variable “mean alcohol consumption” has a sociocultural context.

Figure 1 summarizes results of the Skog’s (1985) analysis. The graph shows the relationship between the mean consumption in the population and consumption levels of light, moderate, medium, nearly heavy and heavy drinkers (these groups defined on the basis of the percentile values). An increase in the mean alcohol consumption in a population is associated with an increase in consumption in all groups of drinkers. In this way, “*population moves in concert upwards along the consumption scale, and drinking in effect seems to have a very strong collective component.*” (ibid: 90). The chart suggests that relationships between variables can be represented by a log-linear model, which supports the hypothesis of the multiplicativity of effects.

Skog (1985) did not find the strength of the multiplicativity of effects in all groups of consumers the same. His results showed that the highest increase in consumption is among light and moderate drinkers. This fact is reflected in the slope of the regression curve – the steeper, the greater the increase in consumption in the group of consumers.





**Figure 1:** Skog's results on the relationship between average consumption and the consumption level of 21 drinking groups (defined by percentiles)

Note: log values reported

Source: Skog, 1985: 90

Furthermore Skog (1985) describes the relationship between mean alcohol consumption and heavy drinking. Based on the fundamental premise that the entire population moves upward the consumption scale if the mean consumption increases, the number of people over a certain consumption limit should increase as well. Therefore, there should be a relationship between the mean consumption in the population and the prevalence of heavy drinkers. This proposition has an implication for alcohol policies as well and suggests that an effective effort to reduce the total consumption of alcohol will also lead to a reduction in heavy drinking and alcohol related harm.

Despite its publication in 1980s, Skog's (1985) theory has been of great interest in recent years. Several studies tried to empirically re-test this theory (e.g. Gmel & Rehm, 2000; Rossow, Mäkelä, & Kerr, 2014; Brunborg, Bye, & Rossow, 2014) and yielded mixed results – it was supported by some of these studies but not by others. An interesting debate about the validity of Skog's theory has been lately produced by researchers mainly from Scandinavian countries (e.g. Bjarnason, 2006; Livingston, 2008; Meier, 2010). There is a development in alcohol consumption by youth in several countries which contradicts Skog's theory – while youth alcohol consumption declines, the prevalence of heavy drinkers of alcohol increases. Thus, it is rather a polarization between light and heavy drinkers than a collective change (e.g. Bjarnason, 2006). Furthermore, two recent studies among Swedish youth brought different results in testing Skog's theory. Results by Hallgren, Leifman and Andreasson (2012) refuted it, while Norström and Svensson (2014) reported findings supportive of Skog's theory.



## Present study

The first objective of this study is to describe the situation in juvenile alcohol consumption in the Czech Republic and Finland and examine its development in recent years. Data used in this study come from two large-scale international projects, namely ESPAD and ISRD, which is advantageous due to the fact that they comprise different age groups and use somewhat different indicators. Hence, the resulting picture is more comprehensive.

Second, Skog's (1985) theory of the distribution of alcohol consumption is empirically tested on the data from ESPAD. Specifically, we aim at an evaluation of following propositions derived from this theory:

1. The distribution of alcohol consumption is asymmetric in both countries.
2. A change in mean alcohol consumption is associated with a change in the proportion of strong drinkers.
3. A change in mean alcohol consumption is associated with a change in all groups of consumers.

Third, the data from the ISRD survey is used for a partial test of Skog's (1985) theory (Proposition 3) employing a different indicator of alcohol consumption. As ISRD does not include information about the exact amount of consumed alcohol, the number of drinking occasions in the last month is utilized instead. This approach enables us to judge if this Skog's assumption is valid even if the frequency of drinking is analyzed.

## Methods

### Data

Data from two international projects focusing on youth are utilized in this article. The first one is the ESPAD survey which is a continual research project carried out in various European countries and its main goal is to collect data on substance use among European teenagers aged 15–16 years. Large school-based samples are drawn every four years and, among others, allow to study trends in alcohol consumption among juveniles (see e.g. Csémy, Lejčková, Sadílek, & Sovinová, 2006; Hibell et al., 2012). Datasets used in the subsequent analyses come from the Czech Republic and Finland from years 2003, 2007, and 2011.

The second datasets come from the ISRD project which is an international research of delinquency and victimization of youth which inquire about alcohol consumption as well. This school-based survey focuses on children from seventh, eighth, and ninth grades of school, i.e. aged approximately twelve to fifteen years (see e.g., ISRD3 Working Group, 2013; Moravcová, Podaná, & Buriánek, 2015; Junger-Tas et al., 2010). Datasets analyzed in this article come from the Czech Republic and Finland from two sweeps of the project which were held in 2006 (and partly 2007) and 2013. Due to differences in sampling procedures between the countries, the samples used in analysis include only juveniles from large cities. In addition, the samples were restricted to children aged 13–15 years.

## Measures of alcohol consumption

For descriptive purposes, simple prevalence indicators of alcohol consumption during life-time, the last year, and the last month and the prevalence of binge drinking<sup>2</sup> during the last month are used. In addition, for the purpose of a test of Skog's (1985) theory, two "alcohol indices" are computed, one for the ESPAD data and the other one for the ISRD data.

First, ESPAD alcohol index is described. We utilize the question: "On how many occasions (if any) have you had any alcoholic beverage to drink... during the last 30 days?" Response options reflected the number of opportunities for alcohol consumption and were the following: "never" (code 0), "1-2" (code 1.5), "3-5" (code 4), "6-9" (code 7.5), "10-19" (code 14.5), "20-39" (code 30), "40 or more times" (code 30). This question was chosen as an estimate of the frequency of alcohol consumption in the last 30 days. Response options were recoded for the analysis to the number of days in the month.

To express the amount of alcohol consumed during the last occasion, we included the following block of questions from the questionnaire: "If you drank beer/cider/alcopops/wine/spirits that last day you drank any alcohol, how much did you drink?" Response options for beer, cider and alcopops in the questionnaire ESPAD 2007 and 2011 were the following: "I never drink beer/cider/alcopops" (code 0), "I did not drink beer/cider/alcopops on the last day that I drank alcohol" (code 0), "<50 cl" (code 25), "50-100 cl" (code 75), "101-200 cl" (code 150), ">200 cl" (code 200). Answer options on wine and spirits were different in questionnaires 2007 and 2011 from the questionnaire of 2003 which were stated: "I never drink wine" (code 0), "I did not drink wine on the last day that I drank alcohol" (code 0), "<15 cl" (code 7.5), "15-30 cl" code (22.5), "37 cl" (code 37), ">75 cl" (code 75). In the questionnaires of the years 2007 and 2011, the first two options were the same as in 2003 (both coded as 0), else: "<20 cl" (code 10), "20-40 cl" (code 30), "41-74 cl" (code 58), ">74" (code 74). In the case of spirits, the first two options were the same in all questionnaires as in the previous types of alcohol: "I never drink spirits" (code 0), "I did not drink spirits on the last day that I drank alcohol" (code 0), the other options in 2003 were: "<5 cl" (code 2.5), "5-10 cl" (code 7.5), "11-25 cl" (code 18), ">30 cl" (code 30). In the questionnaires 2007 and 2011, as follows: "<7 cl" (code 4)<sup>3</sup>, "8-15 cl" (code 11.5), "16-24 cl" (code 20), ">25 cl" (code 25)<sup>4</sup>.<sup>5</sup> We include only respondents who answered at least 3 questions (out of a total of 5 types of alcohol) into the following analysis.<sup>6</sup>

The amount of alcohol consumed during the last month (alcohol index) was constructed as the sum of the amount of alcohol consumed during the last occasion for each

<sup>2</sup> Binge drinking (or heavy episodic drinking) was defined as having at least 5 drinks on one occasion (in ESPAD survey).

<sup>3</sup> In questionnaire ESPAD 2011 was this option "<8 cl" (code 4).

<sup>4</sup> In questionnaire ESPAD 2011 was this option ">24 cl" (code 24).

<sup>5</sup> The codes listed in brackets indicate the centers of the intervals of the drunk amount of given type of alcohol. If the last option was chosen, the code is the given value.

<sup>6</sup> It should be also noted that a question on the consumption of alcopops was not included in the Czech or the Finnish version of the questionnaire from 2003. The questions on the consumption of cider and alcopops were marked as optional in 2007 and 2011. The question on cider was not included in any of Czech questionnaires as cider was rarely consumed in the Czech Republic in this time period.

respondent multiplied by the number of occasions the respondent drank during the last month. The amount of alcohol consumed for different types of alcohol was converted to centiliters of pure alcohol by the following logic:<sup>7</sup>

- amount of beer/alcopops/cider during the last occasion \* .05
- amount of wine during the last occasion \* .14
- amount of spirits during the last occasion \* .30

Second, a different alcohol index was computed for the ISRD data and it was based on the following questions:

- ISRD-2: “Did you drink (beer/wine/spirits) during the last 4 weeks? If yes how many times?”
- ISRD-3: “Think back over the LAST 30 DAYS. On how many occasions (if any) have you had any of the following to drink?” (beer/wine/spirits).

Another complication was the question about the number of opportunities of beer and wine consumption. Whereas ISRD-2 inquired about both types of alcohol together in a single question, there were two separate questions in ISRD-3. Final alcohol index was compute for each respondent as a sum of the highest number of opportunities from all these types of alcoholic beverages (beer/wine/spirits) and the number of the other opportunities for the other alcoholic beverages divided by two.

## Results

First, we concentrate on a description of the situation in alcohol consumption among juveniles in the Czech Republic and Finland (Table 1–2). Results from both ESPAD and ISRD show a striking difference in the levels of alcohol consumption between Czech and Finnish youth – Czech juveniles are considerably more likely to drink alcohol than their Finnish peers, no matter which indicator is used for the comparison. The data from three sweeps of ESPAD (2003–2011) for children 15–16 years old show a stable trend or even an increase in consumption (last month prevalence and binge) among Czech youth (see Table 1). On the contrary, the trend for Finnish juveniles gradually decreases in case of both life-time and last year prevalence and a considerable decrease in the last month prevalence and binge drinking occurred between 2003 and 2007.<sup>8</sup> Furthermore, if the ISRD data from 2006 and 2013 are considered (see Table 2) which comprise age categories 13–15, the decline in life-time prevalence of Finnish youth is even more pronounced and the increase in the last month prevalence of Czech youth is also present, even surprisingly large.

---

<sup>7</sup> Volume of alcohol of drink types was chosen from this source: <http://www.oecd.org/health/health-data.htm>; [https://en.wikipedia.org/wiki/Alcoholic\\_beverage](https://en.wikipedia.org/wiki/Alcoholic_beverage)

<sup>8</sup> The data from a subsequent sweep of ESPAD from 2015 show a continuous large decrease in alcohol consumption among Finnish youth but, surprisingly, a moderate decrease is found also among Czech juveniles (Chomynová, Csémy, & Mravčík, 2016; Kraus et al., 2016).

**Table 1:** Prevalence of alcohol consumption among Czech and Finnish adolescents 15–16 years-old (%)

	Czech Republic			Finland		
	2003	2007	2011	2003	2007	2011
Life-time prevalence	<b>98.4</b>	<b>97.4</b>	97.9	<b>87.9</b>	<b>85.4</b>	<b>83.6</b>
Last year prevalence	<b>94.9</b>	<b>93.2</b>	93.1	<b>79.9</b>	<b>76.5</b>	74.9
Last month prevalence	77.0	<b>75.6</b>	<b>79.0</b>	<b>54.4</b>	<b>47.9</b>	47.8
Binging – last month prev.	<b>47.3</b>	<b>51.5</b>	53.7	<b>40.2</b>	<b>34.0</b>	34.7
N	3172	3901	3913	3222	4988	3744

Note: significant differences ( $p < .05$ ) between 2003 and 2007 and between 2007 and 2011 within each country marked in bold; all differences are significant between countries within all 3 years

Source: ESPAD

**Table 2:** Prevalence of alcohol consumption among Czech and Finnish adolescents 12–15 years-old (%)

	Czech Republic		Finland	
	2006	2013	2006	2013
Life-time prevalence	85.2	87.5	<b>69.3</b>	<b>54.6</b>
Last month prevalence	<b>41.9</b>	<b>71.3</b>	30.4	31.8
N	1035	1468	1212	2058

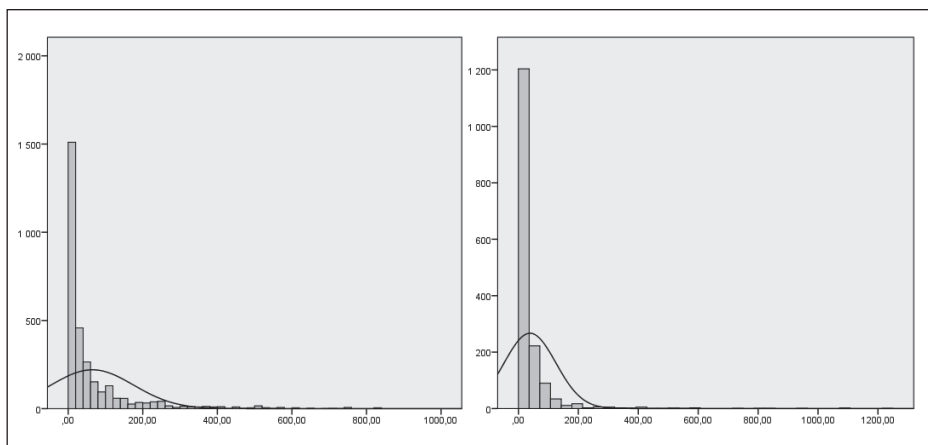
Note: significant differences ( $p < .05$ ) between 2006 and 2013 in CZ (FI) marked in bold; all differences are significant between countries within both years

Source: ISRD

Next, we approach to the test of Skog's (1985) theory. For this purpose, we use the ESPAD data and include only those adolescents who drank alcohol in the last 30 days into the analysis (see, Brunborg, Bye, & Rossow, 2014). On the basis of the values of alcohol index, we can confirm Skog's (1985) assumption that alcohol consumption is distributed asymmetrically in both populations and it is strongly skewed to the right (see Figure 2). Furthermore, the distribution of alcohol consumption is different in both compared countries, specifically, the distribution of alcohol consumption in Finland is more skewed.

In the next step, we categorized juveniles into 5 groups based on their consumption levels in comparison to their peers (numbers indicate the percentile values of each group): 25 – light drinkers; 50 – medium drinkers; 75 – moderate drinkers; 90 – near heavy drinkers; 95 – heavy drinkers. A juvenile who drinks the amount of the 25<sup>th</sup> percentile value (i.e. 25% of drinkers consume less alcohol than he/she) is a typical representative of the group, which we, according to Skog, label light drinkers (similarly in all other groups). Then, the original data from the years 2003, 2007, and 2011 were aggregated into groups by the year of the survey, country, gender, and the percentile value. The resulting data set contains following indicators for each group of drinkers: the value of the alcohol index, the value of mean alcohol consumption and also log values of these variables.

If the results are inspected (Table 3), it is clear that the mean alcohol consumption among Finnish youth (who consume alcohol) slightly increases in time. The increase in



**Figure 2:** Distribution of alcohol index in the Czech Republic and Finland

Note: CZ on the left – N = 3066, skewness = 3.7; S.E. = .03; FI on the right – N = 1617, skewness = 10.4, S.E. = .04; respondents who did not consume alcohol in the past 30 days were excluded from analysis.

Source: ESPAD 2011

mean alcohol consumption is evident for Finnish boys, however in case of girls, there was a relatively large decline between the years 2003 and 2007. In addition, Table 3 reports the proportion of “strong drinkers”, i.e. juveniles, who have consumed more than 100 cl of 100% alcohol (the value of the alcohol index > 100) in the past month. The trend with respect to strong drinkers is not entirely consistent with the above-mentioned trend of mean alcohol consumption. There is consistently around 7% of strong drinkers in the Finnish youth population. Whereas the number of strong drinkers gradually decreases among Finnish girls, there was an increase (2003–2007) followed by a decrease (2007–2011) in the proportion of strong drinkers in case of boys.

In the Czech Republic, there was a decline in mean alcohol consumption among teenagers who drink alcohol between 2003 and 2007, followed by an increase between 2007 and 2011 (see Table 3). This development corresponds also with the proportion of strong drinkers in the population of drinkers. The same can be said about the mean alcohol consumption among Czech boys and among girls. But while the proportion of strong drinkers among boys follows this trend as well, the proportion of strong drinkers among girls declines in time.

The relationship between mean alcohol consumption and the proportion of strong drinkers is, however, very strong (Pearson’s  $r = .98$ ,  $p < .001$ ). Thus, we can conclude that a change in the mean consumption of alcohol is associated with a change in the proportion of strong consumers of alcohol in the population.

Next, we ran a series of linear regression models on log aggregate data. Linear regression with 12 data points (each point reflects one group of drinkers based on gender, country, and year) was used for each percentile group. The models explain a relatively large part of variance. The lowest value of  $R^2$  (.67) is found in the model that describes a group of drinkers at the 25<sup>th</sup> percentile. The other  $R^2$  have values around .9 and explain approximately 90% of the variance in the data.

**Table 3:** Mean alcohol consumption in the last 30 days and the proportion of strong drinkers between Czech and Finnish juveniles (2003, 2007, and 2011)

Country/year	n <sup>1</sup>	Mean alcohol consumption <sup>2</sup>		Proportion of strong drinkers <sup>3</sup>
<b>Finland</b>				
<u>2003</u>		<i>Mean</i>	<i>S.E.</i>	%
Boys	931	30.5	1.5	6.0
Girls	789	42.7	3.2	8.6
Total	1720	36.0	1.7	7.2
<u>2007</u>				
Boys	1052	40.3	2.8	8.7
Girls	1309	33.7	1.9	6.9
Total	2361	36.6	1.6	7.7
<u>2011</u>				
Boys	831	45.9	3.9	7.0
Girls	950	32.5	2.2	5.4
Total	1781	38.6	2.1	7.2
<b>Czech Republic</b>				
<u>2003</u>		<i>Mean</i>	<i>S.E.</i>	%
Boys	1102	93.1	4.1	26.6
Girls	1308	42.5	2.3	10.7
Total	2410	65.6	2.3	18.0
<u>2007</u>				
Boys	1356	78.8	3.9	21.5
Girls	1551	45.6	2.2	12.2
Total	2907	61.1	2.2	16.6
<u>2011</u>				
Boys	1539	86.8	3.3	26.2
Girls	1528	42.3	2.0	12.0
Total	3067	64.6	2.0	19.1

Note: <sup>1</sup> juveniles who consumed alcohol in the last 30 days; <sup>2</sup> centiliters of 100% alcohol; <sup>3</sup> juveniles who consumed more than 100 cl of 100% alcohol in the last 30 days (alcohol index > 100).

Source: ESPAD

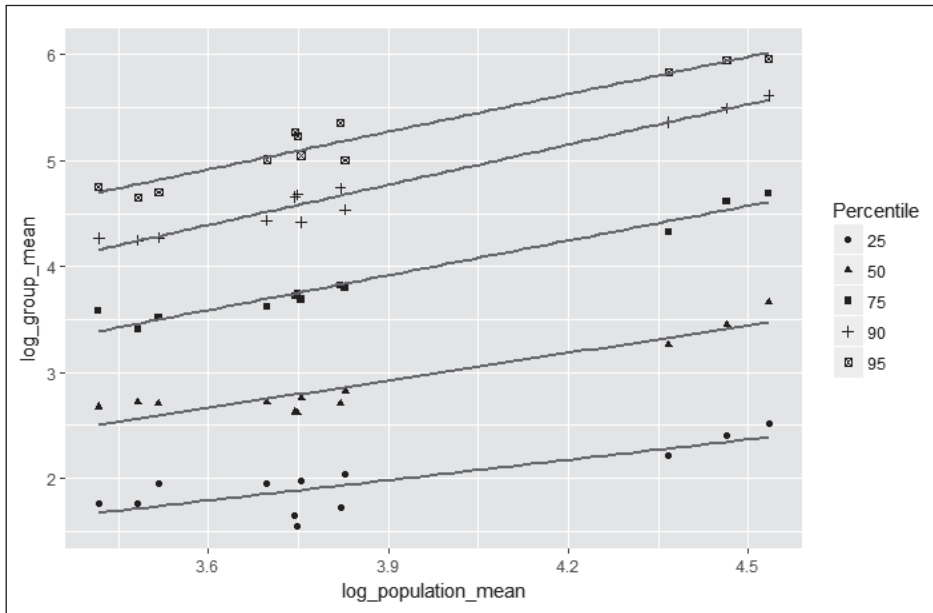
Table 4 presents regression coefficients of models for each group of drinkers and the results are also depicted in Figure 3. An increase in mean consumption in the population leads to an increase in alcohol consumption in all groups of consumers. The results are, thus, consistent with Skog's (1985) theory and support the proposition that alcohol consumption has a strong collective character, so that the entire population is consistently moving up/down the scale of consumption. However, the level by which the consumption increases is different among the groups. The lowest increase is found

among light drinkers (P25). When mean consumption of the whole population doubles, the consumption of light drinkers increases 1.6 times. Conversely, the highest values of coefficients have groups of near heavy (P90) and heavy (P95) drinkers. When mean consumption of the population doubles, the consumption of these groups increases 2.4 times and 2.3 times respectively. Thus, unlike Skog's findings, we conclude that it is the group of near heavy drinkers and heavy drinkers who are more affected by a change in mean alcohol consumption in the whole population compared to the other drinking groups.

**Table 4:** Regression models for 5 groups defined by percentile values – group consumption (logged) by mean consumption (logged)

percentile	B	beta	sig.
P25	.64	.82	.001
P50	.87	.93	<.001
P75	1.10	.98	<.001
P90	1.27	.98	<.001
P95	1.19	.97	<.001

Source: ESPAD



**Figure 3:** Mean consumption (axis x) by percentile values (axis y) for 12 gender specific groups

Note: Percentile values for the 25, 50, 75, 90, and 95 percentiles; log data reported

Source: ESPAD

Finally, we conducted an analogous analysis on data from the ISRD study. This survey did not include information on the amount of alcohol consumed by juveniles, but only the number of occasions when they had drunk alcohol during the past month was re-

ported. Data were aggregated into 8 groups by country, wave of ISRD and gender (shown in Table 5). The population mean of the frequency of alcohol consumption was calculated for each of the 8 groups. The procedure was identical as with the ESPAD data and included only juveniles who consumed alcohol in the past month.

The average numbers of drinking occasions for each group are reported in Table 5. There is an increase in frequency of alcohol consumption in both countries between 2006 and 2013, nevertheless it is steeper in the Czech Republic compared to Finland. Interestingly, gender differences are more pronounced in CZ, whereas they are negligible in Finland, with even somewhat higher mean value for girls than for boys in 2013.

**Table 5:** The average frequency of alcohol consumption in the last month by country and gender

			<b>n</b>	<b>Average number of drinking occasions</b>
<b>Czech Republic</b>	ISRD-2 (2006)	Boys	218	3.0
		Girls	193	2.3
		Total	411	2.7
	ISRD-3 (2013)	Boys	500	5.7
		Girls	546	4.7
		Total	1046	5.2
<b>Finland</b>	ISRD-2 (2006)	Boys	186	2.6
		Girls	223	2.4
		Total	409	2.5
	ISRD-3 (2013)	Boys	317	3.6
		Girls	395	3.9
		Total	712	3.8

Source: ISRD

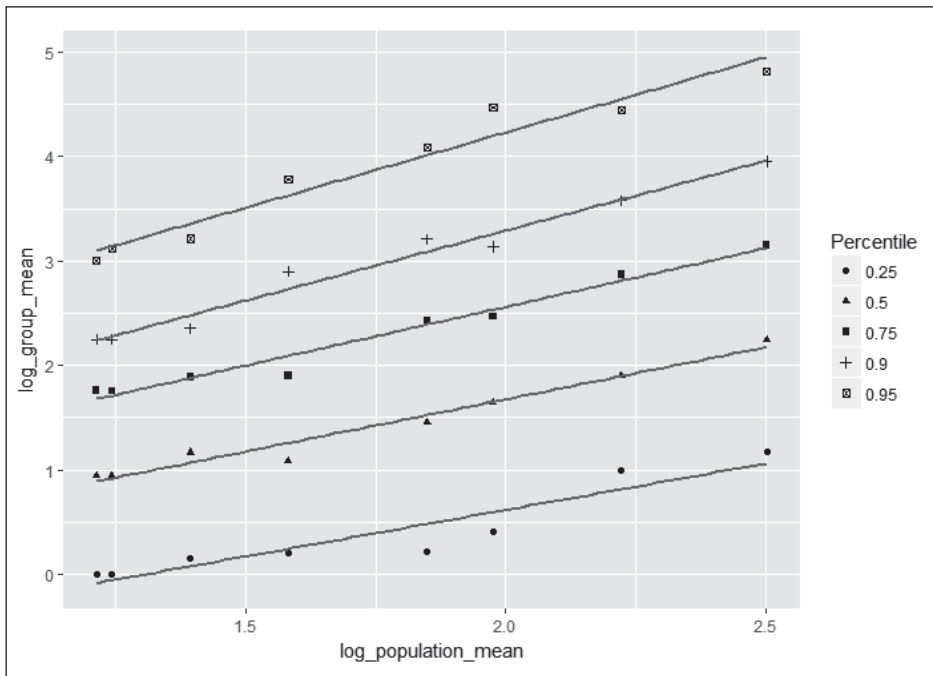
Results of linear regression analysis are presented in Table 6 and depicted in Figure 4. The ISRD data show that an increase in mean frequency of alcohol consumption in population leads to an increase in the frequency of alcohol consumption at all levels of consumers. The smallest increase is visible in the group of light drinkers (P25). When mean frequency of consumption of a population doubles, the frequency of consumption of this group increases 1.9 times. Conversely, the highest values of coefficients have groups of near heavy (P90) and heavy (P95) drinkers. When mean frequency of consumption of the population doubles, the frequency of consumption of these groups increase 2.5 times and 2.7 times respectively. Thus, consistently with previous results from ESPAD, when there is an increase in the average frequency of alcohol consumption in a population, heavy drinkers have the largest increase in their frequency of alcohol consumption.



**Table 6:** Regression models for 5 groups defined by percentile values – group consumption (logged) by mean frequency of consumption (logged)

percentile	B	beta	sig.
P25	.89	.94	.001
P50	1.00	.98	<.001
P75	1.12	.99	<.001
P90	1.34	.99	<.001
P95	1.44	.98	<.001

Source: ISRD



**Figure 4:** Mean frequency of consumption (axis x) by percentile values (axis y) for 8 gender specific groups

Note: Percentile values for the 25, 50, 75, 90, and 95 percentiles; log data reported

Source: ISRD

## Discussion

The aim of this article was to describe the situation with respect to alcohol consumption among Czech and Finnish youth and to empirically test Skog’s (1985) theory of the distribution of alcohol consumption. For this purpose, we used data from two large-scale international surveys for the Czech Republic and Finland. The results show that there

are, indeed, considerable differences between Czech and Finnish juveniles in alcohol consumption and in its trend over the last years. Such variability is a convenient starting point for the test of Skog's theory which results are supportive of all three propositions. First, the distribution of alcohol consumption is strongly skewed to the right in both countries. Second, a strong relationship between mean alcohol consumption in the population and the proportion of strong drinkers has been found. Third, it has also been confirmed that a change in mean alcohol consumption in a population is associated with a change in alcohol consumption at all levels of consumers, from light to heavy drinkers.

However, unlike Skog's (1985) findings showing that an increase in mean alcohol consumption in a population has the largest impact on the increase in alcohol consumption among light drinkers (see also Brunborg, Bye, & Rossow, 2014), in our analysis, it is the group of heavy drinkers (and near heavy drinkers) which is affected the most by such a change. Furthermore, our analysis of the ISRD data has revealed that Skog's (1985) theory is supported even if another indicator of alcohol consumption is used. In this case, the number of occasion in which alcohol was consumed in the last month, i.e. the frequency of alcohol consumption, yields comparable results as the analysis considering the amount alcohol consumed in the last month.

Presented analyses are, nevertheless, not without limitations. First, the exclusion of juveniles who did not consume alcohol in the last 30 days from analysis might be problematic as it comprises a high proportion of youth. We have decided for this approach as we have followed the lead by Brunborg, Bye, and Rossow (2014). However, it would be desirable to examine possibilities of including "non-consumers" in analysis as well. Second, another procedure overtaken from the study by Brunborg, Bye, and Rossow (2014) was a division of data into populations of girls and boys, likely because of an increase in the number of data points for linear regression models. Such division assumes that boys and girls are distinct groups which create separate networks of consumers and different standards for alcohol consumption. Although this assumption might be correct as adolescent girls and boys spend their leisure time rather separately, further analysis should confirm this assumption. Final limitation is the low number of data points in our linear regression models. For more accurate results, it would be useful to analyze data from more countries and/or using more time points.

Despite these limitations, we find the results as a contribution to the discussion of Skog's theory. Moreover, the results are directly comparable with the analysis of Norwegian data from ESPAD (Brunborg, Bye, & Rossow, 2014). Findings presented in this article have clear implications with respect to prevention of youth alcohol abuse. As has been shown, if there is a change in mean alcohol consumption in a population, there is a change at all levels of consumption, but the largest change occurs among heavy drinkers. This conclusion is supportive of universal preventive efforts targeted at the whole youth population. Any success in reduction of the average alcohol consumption is also likely to substantially reduce the amount of alcohol consumed by heavy drinkers, thus reduce alcohol-related harm among youth as well. Furthermore, as Finland is obviously successful in reduction of youth alcohol consumption, their alcohol policy could be an inspiration for the Czech policy makers. Higher prices of alcohol, better age control before selling alcohol, strict punishments for selling alcohol to youth, reducing the number

of advertisements in media and greater parental control are possible ways which could contribute to reduction of alcohol consumption of Czech youth.

## Acknowledgements

1) This article includes data from a database produced within the European School Survey Project on Alcohol and Other Drugs (ESPAD). This article is written in the line with the rules for the use of the ESPAD database. The National Principal Investigator and Contact Person providing data for this study was Zuzana Podaná, Czech Republic, Charles University.

2) This article includes data from a database produced within the project International Self-Report Delinquency Study (ISRD). The dataset from ISRD-3 was kindly provided by the ISRD Steering Committee. The Contact Person providing data for this study was Zuzana Podaná, Czech Republic, Charles University.

## REFERENCES

- Bjarnason, T. (2006). Polarization in alcohol consumption among Icelandic adolescents, 1995–2003. *Nordic Studies On Alcohol And Drugs*, 23, 51–58.
- Brunborg, G. S., Bye, E. K., & Rossow, I. (2014). Collectivity of drinking behavior among adolescents: An analysis of the Norwegian ESPAD data 1995–2011. *Nordic Studies On Alcohol*, 31(4), 389–400.
- Chomynová, P., Csémy, L., & Mravčík, V. (2016). Evropská školní studie o alkoholu a jiných drogách (ESPAD) 2015. *Zaostřeno*, 2(5), 1–16. Retrieved from [https://www.drogy-info.cz/data/obj\\_files/32196/734/zaostreno\\_2016-05\\_v03.pdf](https://www.drogy-info.cz/data/obj_files/32196/734/zaostreno_2016-05_v03.pdf)
- Csémy, L., Lejčková, P., Sadílek, P., & Sovinová, H. (2006). *Evropská školní studie o alkoholu a jiných drogách 2003*. Praha: Úřad vlády ČR. Retrieved from [http://www.drogy-info.cz/data/obj\\_files/1665/361/espas\\_web.pdf](http://www.drogy-info.cz/data/obj_files/1665/361/espas_web.pdf)
- Čermáková, I. (2016). *Konzumace alkoholu mládeží: testování Skogovy teorie distribuce alkoholové konzumace*. Diplomová práce. Praha: Filozofická fakulta Univerzity Karlovy.
- Gmel, G., & Rehm, J. (2000). The empirical testability of Skog's theory of collective drinking behaviour. *Drug and Alcohol Review*, 19(4), 391–399.
- Hibell, B., Guttormsson, U., Ahlström, S., Balakireva, O., Bjarnason, T., Kokkevi, A., & Kraus, L. (2012). *The 2011 ESPAD Report. Substance Use Among Students in 36 European Countries*. Stockholm: The Swedish Council for Information on Alcohol and other Drugs. Retrieved from [http://www.espad.org/uploads/espas\\_reports/2011/the\\_2011\\_espas\\_report\\_full\\_2012\\_10\\_29.pdf](http://www.espad.org/uploads/espas_reports/2011/the_2011_espas_report_full_2012_10_29.pdf)
- Hallgren, M., Leifman, H., & Andreasson, S. (2012). Drinking Less But Greater Harm: Could Polarized Drinking Habits Explain the Divergence Between Alcohol Consumption and Harms among Youth? *Alcohol And Alcoholism*, 47(5), 581–590.
- ISRD3 Working Group (2013). *Questionnaire ISRD3: Standard Student Questionnaire (ISRD3 Technical Report Series #2)*. Boston, MA: Northeastern University, School of Criminology and Criminal Justice.
- Junger-Tas, J., Marshall, I. H., Enzmann, D., Killias, M., Steketee, M., & Gruszczynska, B. (2010). *Juvenile delinquency in Europe and beyond*. New York: Springer.
- Kraus, L. et al. (2016). *ESPAD Report 2015. Results from the European School Survey Project on Alcohol and Other Drugs*. Luxembourg: Publications Office of the European Union. Retrieved from <http://www.espad.org/sites/espas.org/files/TD0116475ENN.pdf>
- Kubička, L., Csémy, L., Duplinský, J., & Kožený, J. (1998). Czech men's drinking in changing political climates 1983–93: a three wave longitudinal study. *Addiction*, 93(8), 1219–1230.
- Livingston, M. (2008). Recent trends in risky alcohol consumption and related harm among young people in Victoria, Australia. *Australian & New Zealand Journal Of Public Health*, 32(3), 266–271.

- Meier, P. (2010). Polarized drinking patterns and alcohol deregulation. *Nordic Studies On Alcohol And Drugs*, 27(5), 383–408.
- Moravcová, E., Podaná, Z., & Buriánek, J. (2015). *Delikvence mládeže: trendy a souvislosti*. Praha: Triton.
- Norström, T., & Svensson, J. (2014). The declining trend in Swedish youth drinking: collectivity or polarization? *Addiction*, 109(9), 1437–1446.
- Rossow, I., Mäkelä, P., & Kerr, W. (2014). The collectivity of changes in alcohol consumption revisited. *Addiction*, 109(9), 1447–1455.
- Skog, O. J. (1985). The Collectivity of Drinking Cultures: A Theory of the Distribution of Alcohol Consumption. *British Journal Of Addiction*, 80(1), 83–99.
- World Health Organization. (2014). *Global status report on alcohol and health 2014*. Geneva, World Health Organization. Retrieved from [http://apps.who.int/iris/bitstream/10665/112736/1/9789240692763\\_eng.pdf?ua=1](http://apps.who.int/iris/bitstream/10665/112736/1/9789240692763_eng.pdf?ua=1)

---

## THEORIES OF POLICE LEGITIMACY – ITS SOURCES AND EFFECTS<sup>1</sup>

PAVLA HOMOLOVÁ

Department of Sociology, Faculty of Arts, Charles University

E-mail: homolova.pavla@centrum.cz

### ABSTRACT

The review of theories on police legitimacy aims at introducing the subject with a multi-disciplinary approach. It quotes criminological, sociological as well as psychological and institutional theories of legitimacy, in order to provide the reader a rich framework, in which the findings of the presented current empirical studies can be evaluated. Police legitimacy is conceived as a social phenomenon, closely related to social norms such as socially constructed police roles and models of policing. The prevailing normative model of police legitimacy in criminology is discussed in greater detail, including critical outlook on procedural fairness as the assumed main source of police empirical legitimacy. Recent findings concerning legal socialization and theories of legitimization myths are highlighted in order to supplement the micro-level oriented criminological literature on police legitimacy. Possible future pathways of legitimacy research in criminology are discussed.

**Key words:** police; legitimacy; trust; compliance; cooperation

### Introduction

*There exists no simple path toward police legitimacy.* (Herbert, 2006, p. 497)

We live in an era when state institutions are closer to people than ever – former strict hierarchy of power has been in democracy abandoned in the name of principles of equality and public supervision. That places high demands on legitimization or justifying the power necessary for functioning of the institutions. Moreover, the institutions including the police are currently facing a difficult task of earning trust among citizens with various cultural backgrounds. Members of the current society have been socialized in very divergent socio-legal contexts and may carry different, even opposing normative images of what the police role is (on country-level divergencies in the expected police role see for instance Kutnjak Ivković et al., 2016). Given these factors, legitimization of the police cannot be taken for granted. We need to pay attention to general as well as context specific processes shaping police legitimacy in order to understand it. For a full apprehension of police legitimacy, it is also vital to consider its micro and macro aspects. The micro level is reflected in the notion of duality of legitimacy, suggested already by Weber (1972), more recently for instance by Bottoms and Tankebe (2012) and others (Suchman, 1995). In these accounts, legitimacy is conceived as a negotiated relationship between the governing institution and

---

<sup>1</sup> The preparation of this journal article was supported by the Charles University funding scheme Progres Q15.

the governed rather than a possession of the institution (Suchman, 1995). Besides, the police are not a stand-alone omnipotent institution (ibid.). To understand their power mechanisms, we should also take into consideration other macro level phenomenon, such as power based relations in the given society (see for instance Jauregui et al., 2013).

**The normative, relational and contextual nature of police legitimacy** signifies the relevance of the topic within social sciences such as sociology and criminology, notwithstanding law and criminal studies. The study focus lies in introducing the structure, correlates and consequences of police legitimacy based on a review of current largely criminological literature. We want to approach the theories of police legitimacy and legitimization with respect to the outlined social factors: norms, roles, relations and contexts or fields of power in Bourdieu's (1986) terminology.<sup>2</sup> Even though the study does not allow for overly specific answers, we promote a theoretical framework that can serve more practical purposes of profound empirical exploration of police legitimacy in the future. According to modern normative political accounts, legitimacy *resides in acceptance of a social responsibility to strive for a consensus* (Clark, 2005, p. 192). Understanding the multiple processes may thus be seen useful in finding sources for a functional police-public partnership in the globalized society. However, given the empirical approach to legitimacy in social sciences, we warn against treating the social science research on police legitimacy normatively.

### Empirical legitimacy

Legitimacy is commonly understood as a **justified use of power or authority**. In social sciences we speak about empirical legitimacy – about justifications that are rooted in social definitions, without considering its objective criteria (following Weber, 1972). A renowned American theorist of organizations and sociologist Suchman defines legitimacy as a *generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions* (Suchman, 1995, p. 574). He makes it apparent that different sources of legitimacy are at play – not only desirability (**instrumental** reasons),<sup>3</sup> but also appropriateness (**normative** reasons) and definitions (cognitive explanations). Equally importantly, Suchman (ibid.) underlines the **socially constructed character of legitimacy**. The social character of the legitimacy belief, stressed already by Weber (1972), means that legitimacy depends on a group belief, not just on single individual opinions (Suchman, 1995). American sociologist Lipset (1983, p. 64) offers another perspective of (political) legitimacy, which for him *involves the capacity of a political system to engender and maintain the belief that existing political institutions are the most appropriate and proper ones for the society*. The capacity to create such belief through (auto-) legitimizing mechanisms is undoubtedly inherent to any legitimate system, including the police. In contrast to Suchman's account,

---

<sup>2</sup> *We can no longer ask whether power comes from above or from below. Nor can we ask if the development and the transformation of the law are products of an evolution of mores toward rules, of collective practices toward juridical codification or, inversely, of juridical forms and formulations toward the practices which they inform. Rather, we must take account of the totality of objective relations between the juridical field and the field of power and, through it, the whole social field.* (Bourdieu, 1986, p. 841)

<sup>3</sup> For instrumental definition of legitimacy see for instance Cooper (2014). For him legitimacy is determined by a social acknowledgment of usefulness of a given organization for the society's well-being.

in the Lipset's definition the core of legitimacy is seen in the governing system rather than the governed. Similarly, in conflict paradigm (see for instance Bourdieu, 1986, 1979) and cultural theories (Loader & Mulcahy, 2003) the emphasis is put on power of the state and the police to symbolically influence the belief about what is considered as legitimate. The legitimacy belief that is part of both types of the outlined definitions is however generally apprehended as created from **top-down as well as bottom-up**, which points at the duality of legitimacy proposed earlier in this paper.

### Structure of empirical legitimacy

Legitimacy is commonly divided in specific forms based on criteria used for its assessment. Distinguishing the forms is important because they may operate in divergent manner. The knowledge of the mechanisms and their structure is relevant not only in understanding legitimacy sources, but also in legitimacy management. The widely spread categorization concerning empirical legitimacy is that of **normative versus instrumental legitimacy**, depending on whether we stress values or needs/self-interest of the governed as the criteria for justification of the institution (Weigand, 2015). This dichotomy has been of large use within social sciences (including criminology), where the empirical notion of legitimacy prevails. Suchman (1995) adds another form, when he differentiates not only moral legitimacy (normative approval or *evaluation* whether the outputs, procedures and structures of the organizations are morally right) and pragmatic legitimacy (based on *self-interest*), but also **cognitive legitimacy** (based on cognitive comprehensibility, taken for grantedness). Cognitive legitimacy is connected to universal human needs for security and meaning. It can be further divided in comprehensible legitimacy (gained by meaningful, predictable organization's activities), and a deeper built-in taken for grantedness (when alternatives to that organization become unthinkable on the long-term), which is very hard to achieve. Together with the moral form of legitimacy, the cognitive legitimacy can be particularly useful for regulative institutions (e.g. in legal or educational subsystem) that are closely connected to norms – compared to technical organizations aimed primarily at effectiveness (Suchman, 1995).

Similar typology of empirical legitimacy is derived from the nature of obligation that is at the core of legitimacy. One may feel obliged to comply with the legitimate institution out of legal duty (**regulative legitimacy** expressed by perception “I have to”), out of moral duty (**normative legitimacy** expressed by “I ought to”) or out of free consent (**cognitive legitimacy** expressed by “I want to”) (Palthe, 2014). This division can be implicitly found in the prevailing model of police legitimacy (Jackson et al., 2016), even though the authors do not empirically distinguish between regulative and normative legitimacy. In their model, the former two dimensions can be found in obligation to obey (out of legal or moral duty) and the latter in sensation of police appropriateness (out of identification with the societal/police norms) (see the chapter Two facets of police legitimacy).

There are different strategies for maintaining each legitimacy type and the types have varied stability (Suchman, 1995). The cognitive type of legitimacy is the hardest to attain but at the same time the most stable (*ibid.*). The various forms of legitimacy can bolster each other but also impede each other. The stronger established the social order is, the lesser is the probability of conflicts arising among them (*ibid.*).

## Police role and its implications for legitimacy

### Consequences of police legitimacy

Clark (2005) points out that legitimacy encourages or even enables certain types of behaviour while discourages other types. Behaviour is determined not only by people's actual wishes, but also by obligations. Perceived institutional legitimacy creates an obligation to behave in certain ways – e.g. defer to decisions of the institution. The relatedness of legitimacy and support for institutions in general is discussed in greater detail in the work of Suchman (1995). Legitimacy can lead to **passive acceptance** of the institutional agency as well as **active assistance** in reaching the goals of the institution. Earning active cooperation may however demand stronger legitimization practices because people may evaluate legitimacy more “stringently”: *To avoid questioning, an organization needs only ‘make sense’. To mobilize affirmative commitments, however, it must also ‘have value’* (Suchman, 1995, p. 575). This could be roughly related to the above presented moral forms of legitimacy. Apart from the support, Suchman underscores also **stability** and **credibility** (or meaningfulness) of an organization as consequences of granted legitimacy.<sup>4</sup> These two latter qualities are usually mutually reinforcing (ibid.). In political theory, Beetham (1991) pointed out the two-way relation between effectiveness and legitimacy – not only effective institutions gain legitimacy, legitimacy also contributes to **effective** governing. Beetham's work on theory of legitimacy together with that of Coicaud and Curtis (2002) was later applied in criminological context (see chapter Legitimacy and normative model of compliance).

Consequences of perceived police (il)legitimacy have been widely discussed in the last years in criminology, constituting a prominent branch of policy. Tyler (2004, 2006a) and others (Murphy, Bradford & Jackson, 2016; Piquero et al., 2005; Reisig, Wolfe & Holtfreter, 2011; Tankebe, 2013) showed that perceived police legitimacy brings support in the form of long-term **compliance** with the law and active **cooperation** on the side of the public. This is valid not only for general population, but also for criminal offenders (Papachristos, Mearns & Fagan, 2012; Reisig & Meško, 2009). In total, not only legitimacy helps to multiply effectiveness of the police, it also empowers the relationship between the police and the communities that it serves. When people feel the police are legitimate, they **identify** with the police (and the society) more and it encourages them to participate on the police (societal) tasks (Tyler, 2006a). It seems that people who perceive the police more legitimate (as the monopolizing institution for rightful use of force) have also **less tolerance to using private violence** to deal with disputes, for self-protection or as a part of protest aiming at social change (Jackson et al., 2013). These results are extremely important for policy makers.

The reaction to perceived lack of beneficiality of an institution (under which we understand also lack of perceived legitimacy) on the other hand may **exit (escape) or voice (protest)** strategies on the side of the governed (Hirschman, 1970). These reactions can also be symbolic, one does not need to move out physically from the country to express

---

<sup>4</sup> On the contrary, Clark (2005) does not see stability as a consequence of legitimacy, for him it is rather a correlate describing the same situation as legitimacy.



their dissatisfaction with the police. It can be a more subtle way of escaping, for instance a “denial” in the form of ignoring police officers or an overall passivity towards the police, which is naturally less risky than a full ignorance. The easier to exit, the lower probability of choosing the voice strategy (ibid.). The suggested escape through passivity does not demand any effort, and so may be a more comfortable (and also safer) way compared to protest against the police. It should be added that the choice of strategy will probably depend on reactions of other people in one’s reference group. As Weber (1972) noted, when majority of people see the organization as legitimate, the rest will at least overtly comply to it due to social pressure. As Hirschmann (1970) also highlights, the two strategies do not exist pure in reality, usually we experience a certain ratio of both.

Overall it can be deduced that the more legitimacy the police have, the more active cooperation we can expect on the side of the public. This is very important given the dependence of the police success on active cooperation from people. In this way, legitimacy has gained attention in criminology as an important motive of human behaviour. Legitimate police can oblige people to comply with it: to defer to their decisions or to cooperate with them. But what does legitimate police mean?

### Models of legitimate policing

*... policing is a cultural text which communicates with a variety of social audiences and conveys an extended range of meanings.* (Garland, 2001, p. 253)

The role of the police as ascribed by the state and perceived by the public is directly connected to police empirical legitimacy, be it crime detection, social welfare or law and order maintenance: *Legitimacy is most readily acquired through a rational connection between what an organization does and what it achieves* (Cooper, 2014, p. 2).<sup>5</sup> Mawby (2012) distinguishes models of policing based on police function, police structure and source of police legitimacy. A **control-dominated system** is characterized by centralized police structure, crime control as the main aim and legitimacy derived usually from the state. It is built upon rational choice theory and as such it relies on instrumental incentives as the main motivations of compliance – usually sanctions or threats and reducing opportunities to commit crime (for instance through increased surveillance). In European context it existed in communist states, in the US it was popular within conservative criminal policies of the 1980s. Today it can be identified in hot-spots policing, strict policy of three strikes etc. (Trinkner & Tyler, 2016).

The crime-control model is contrasting with the **model of community policing** (as a part of more general concept **due process**) being focused more upon social welfare and cooperative relationship with the authorities achieved through localized structure and legitimacy granted from local communities (Mawby, 2012). The community model is built upon assumption that norms and values can motivate compliance. The police that follow certain normative principles and share system of values with us can be trusted and legitimized to demand deference. The model originated in the 1960s in the US with attempts

---

<sup>5</sup> This conception results from Weber’s (1964) classical ideas of rationally (bureocratically) structured organizations.

to bring the police closer to people as a part of civil rights protests and criticism of police brutality (Crank, 2003). Owing to the fact that people are motivated to compliance not only by norms, but also by gains and losses (for instance when calculating probability of being caught), policing will be probably most effective when combining both approaches. During democratization we can however expect an overall shift from control-dominated system towards community-oriented one, as the latter is closer to democratic ideals of policing (Mawby, 2012).

Each model of policing has its risks in terms of legitimization. In both cases the risks are partly related to overly strong expectations from the police, although in a different sense. The crime control model does not account for the fact that crime itself is influenced by many factors that are simply out of police reach. Moreover, it is hard to measure the real impact of certain policy on crime levels so the crime control can be evaluated and achieved only to limited extent (Cooper, 2014). Another problem is connected to the police tool for fighting crime – coercion by force is necessary but at the same time can be viewed as inappropriate, especially if it is used too often or too seldom (Kane, 2003). Manning (1978) adds, that even if the proper amount of coercion is used, it is usually not much effective for delivering the task. These all are aspects of what Manning calls the **“impossible mandate”** of the police. Not only does it complicate long term achievement of police legitimacy, it could also lead to a dysfunctional substitution of tools and targets and overestimation of crime fighting role of the police at the expense of other more important roles. If we accept that the main task of the police is to fight crime, there is only a few steps to a situation, where the police are being justified mainly by crime statistics, response times and arrest numbers, as it has been a common practice since the beginning of the 20<sup>th</sup> century (Cooper, 2014). The arguments sketched above provide reasons why the police or other law enforcement institutions need also other ways of maintaining legitimacy than justification by effective fulfilment of their main task.

In the community policing model, there is also certain risk of raising an impossible mandate. It could happen due to **widening the perceived scope of police tasks** from “crime control” to “social wellbeing”. For instance Meares (2012) claims for **rightful policing**, as a model overcoming drawbacks of the crime control model and of policing based purely on laws. Her model is based on connection of the police with the community that can be built through respecting people’s rights – principles of fair and respectful treatment. This partially overlaps with aspects of effectiveness and lawfulness, but goes beyond it. For Meares, the police should not only represent a lawful tool for fighting crime, but also become an active social actor and a creator of common social identity, thus promoting a democratic environment. There is however disagreement on whether the scope of the police should be enlarged to include also the extra-roles which is suggested in the community policing model, especially in the specifications close to view of Meares (see for instance Herbert, 2006). Huq, Jackson and Trinkner (2016) note that in the current state of widening police tasks beyond “crime control” in a narrow sense, there is a higher probability that people would consider the police activities as unjustified because of too much intervention in their private lives.

Moreover, the demands that the police are facing and their official tasks are becoming rather differentiated. If we perceive legitimacy as an overlap between role and its

fulfilment, we can expect harder achievement of legitimacy in such conditions. There are numerous ways how the social role of the police can be constructed and probably the more differentiated social systems are, the more diverse are also the expectations from the police, or criteria of their legitimacy. One reason why legitimacy of criminal justice has become a top issue in current criminology may be the rising social and value **plurality**. Is it fair that the police stop and search primarily non-white civilians? Is it desirable that the police struggle for “clean streets” (without homeless people)? Different social groups will probably stress different issues or aspects that the police should take care of. Vaughan (2007, p. 347) articulates the concerns of policing in age of pluralism, where *[p]olice forces may be subject to a range of different claims, emanating from central government, business groups, local communities, newsmedia and campaigning bodies*. In the conditions of questioning policing objectives, he finds the solution for reconciling different voices in *upholding the equality of status of all [...], guided by the principle of avoiding domination by tracking the interests of all those who are affected by policing decisions* (ibid: 363). This perspective is embedded in the current criminological focus on legitimizing power of procedural fairness (see chapter Procedurally fair policing).

Herbert (2006) assumes that also the main ways in which the modern police try to earn their legitimacy are conflicting with each other. Instead of strength, the manifested police “subservience” to people (emphasized in community policing) has become the new legitimization criterion. But the social criteria for legitimacy in current Western society are still multiple (neutrality, responsiveness, power, professionalism) and somewhat clashing. The police can still earn credibility and legitimacy through manifesting high social status (for instance through presenting themselves as distinct powerful experts) among some people. Professional work can bring the police prestige, although professionalism goes against appeals to responsiveness (legitimization through distance versus closeness to people). The desired focus of the police on neutrality may also turn out to be rather distancing it from the public – it stresses the law, not the citizen’s satisfaction as the criterion of good work. Moreover, the police in their view may still want rather “blind obedience” for being effective and protected and thus may strive for coercive power, irrespective of the current trend of community policing (ibid.). This may be especially true in transitory democracies. For instance, older Slovenian police officers and male police officers were likely to defend sever punishment for offenders compared to younger officers and police women. The findings are interpreted as an evidence of persistence of authoritarian police orientation in postmodern society (Kury et al., 2009). Likewise, according to Croatian policemen, community policing is largely not accepted among lower levels of the police staff (Kutnjak Ivković, 2009).

A somewhat pragmatic solution to problems of policing in plurality can be found in the work of organizational theorists. In the era of social plurality, the connecting power of overarching symbols and values that are held across different social groups can be limited. To win a wide social support it can be necessary to create a dense net of meanings to which people from various social groups can relate (Suchman, 1995). This is in reality reached for instance by maintaining multiple police identity as a part of the impression management (Sillince & Brown, 2009) – an organization’s identity serves as a symbol inducing integrity and meaningfulness and as such can be of use in maintaining organizational

legitimacy (ibid.).<sup>6</sup> Sillince and Brown analyzed an online communication of the British police, where they identified different discursive formulations which they understand as appeals to multiple identities. They assume that inconsistent discourses are used by the police as effective strategy for satisfying different social groups or inconsistent expectations. Using discourse analysis, the authors recognized three broad categories of police claims – about their effectiveness, progress and relation to community – as well as functions of each group of the claims. Claims about effectiveness may raise police pragmatic legitimacy, while claims about ineffectiveness can be resulting in fear of crime and granting the necessity of the police and need of public assistance. Claims about relation to community can be understood as empathizing with the public and lead to better identification with the police, while claims about distance from community may serve to present the police as specialists who know what they are doing and thus grant them pragmatic legitimacy. Claims about progress can represent commitment to social norm of improvement, while claims about no progress can lead to a perception of honest police seeking for an improvement. The police make use of the multiple discourses/different communication strategies depending on the situation or audience. Denef, Bayerl and Kaptein (2013) empirically identified two types of British police communication strategies on Twitter – an instrumental one (the police as distant crime-control power) and an expressive one (the police connecting closely with the public). Both strategies are observed to be functional, though the authors assume that the situational suitability of the communication strategy is vital for maintaining police legitimacy. In this way, the aspects of the crime control model and the community model can be seen as complementary. Nevertheless, the risk of losing police legitimacy in terms of integrity by pragmatic choice of rhetoric is not ruled out.

### Legitimacy and normative model of compliance

The current criminological conceptions of police legitimacy (Bottoms & Tankebe, 2012; Huq, Jackson, & Trinkner, 2016; Tyler & Huo, 2002) draw heavily on the definition by social psychologist Tyler (2006b) and political theorist Beetham (1991). Tyler (2006b, p. 375) described legitimacy as *a psychological property of an authority, institution, or social arrangement that leads those connected to it to believe that it is appropriate, proper, and just. Because of legitimacy, people feel that they ought to defer to decisions and rules, following them voluntarily out of obligation rather than out of fear of punishment or anticipation of reward.* Beetham (1991) understands (political) legitimacy in democracy as a multidimensional construct. He described three criteria of legitimacy (“the rules of power”) – 1) legality or acting according to laws, which rests on 2) shared values, while there is an evidence of 3) consent or felt obligation to obey on the side of the subordinate.

Each of these aspects is qualitatively different for Beetham (1991) and also has different sources. He criticized legitimacy conception of Weber, who equaled legitimacy with a belief of the governed, when he highlighted the obligating core of legitimacy: *Together, these criteria provide ground not for a belief in legitimacy, but for those subject to power to*

---

<sup>6</sup> The relationship between identity and legitimacy is bidirectional. It has been also shown that once a rule or group is legitimized, people identify with it more (Tyler, 2006b).

*support and cooperate with its holders; grounds, that is to say, not for belief, but for obligation* (Beetham, 1991, p. 13). Beetham was aware that legitimacy demands both normative and instrumental grounding – *both a morally authoritative source for government, and an ability to satisfy the ends which justify its enormous concentration of power* (Beetham, 1991, p. 137). However, he refused pure rational choice theory of human behaviour. Likewise, institutionalist theories offer models connecting instrumentally and morally driven modes of action. Crank (2003) adapted Giddens' theory of social action (1984) to model action of police organizations as well as individuals in relation to them. He claims that conscious course of action may be intentional and rationally instrumental, but the instrumentality is limited because it cannot be set free from normative factors such as cultural beliefs or language meanings (similarly like individual action cannot be separated from its social background in the Giddens' theory of structuration).

## Two facets of police legitimacy

Not surprisingly, the researchers of police legitimacy in criminology are also criticizing the crime-control model as insufficient because of its grounding in rational choice theory. They offer an empirical verification of a normative model of behaviour related to criminal justice institutions (compliance with the law/cooperation with the criminal justice) (Jackson et al., 2016a). Compliance with the police and the law is shown to have largely normative causes, stemming from normatively conceived police legitimacy more than from fear of being caught or effectiveness of the police (although for people or cultures holding authoritarian values, effectiveness may be more important – Jackson et al., 2016b).

The prevailing model (Jackson et al., 2016a) depicts legitimacy as consisting of 1) **normative consent** (a sense that one should obey the legal organization out of moral or legal duty, that it is entitled to be obeyed)<sup>7</sup> and 2) **appropriateness** (belief that the organization has the **right to power** which can be based upon normative alignment – a sense of shared conception of right and wrong with the authority).<sup>8</sup> Jackson et al. (2016a) propose equal standing of both parts, yet separate. In European and American society, consent and appropriateness have been found to yield a distinct impact on compliance and cooperation (Jackson & Gau, 2015). The researchers thus expect that these two aspects of legitimacy are evaluated in people's minds independently and may motivate different behaviour (ibid.).<sup>9</sup>

The perceived right to power (appropriateness) is fueled by perceived **lawfulness (or legality) and morality (or bounded authority) of the police**, which includes perceptions of police corruption or integrity. The team originally stated that bounded authority *is distinct, we note from the concept of legality, which others have posited as important albeit without evidence. The effect we find is from socially derived conceptions of appropriate*

---

<sup>7</sup> The idea of a free consent dates back to Rousseau and Locke who saw it as a root of social agreement between the state and the governed enabling formation of organized society.

<sup>8</sup> Compared to trust in the police, the belief in normative alignment is more concerned with reflection of one's own community moral values, than with performing according to norms specifying appropriate power possession (Jackson & Gau, 2015). Currently, it is equated with the perceived right to power (Huq, Jackson, & Trinkner, 2016) or with the identification with the police (Tyler & Fagan, 2008).

<sup>9</sup> In the UK data sample, appropriateness seems to be relatively stronger predictor of police legitimacy and willingness to cooperate with the police than felt obligation to obey (Jackson et al., 2016b).

*behaviour, rather than legally defined parameters of police authority* (Huq, Jackson, & Trinkner, 2016, p. 14). However, in the most recent study (Jackson et al., 2016b), they provide empirical proof for combining the (in UK data sample) highly correlated perceived police lawfulness and police morality into one dimension of police empirical legitimacy (with the other dimension remaining the normative consent or perceived obligation to obey). However, in other social contexts there may be a greater distinction between lawfulness and morality.

The two facets of police legitimacy (appropriateness and consent) are generally accepted in criminology research, but the theories differ in the hypothesized structure of the relations. For instance in some theories they form a single indicator of legitimacy, in other theories they are comprehended as two distinct indicators, possibly causally related. There is also certain **disagreement on how to conceptualize other related aspects** of police legitimacy. Tankebe and colleagues (Bottoms & Tankebe, 2012; Tankebe, Reisig & Wang, 2016) view procedural fairness, distributive fairness, effectiveness and legality (lawfulness) as components of legitimacy, for Jackson and colleagues those are rather legitimizing factors of trustworthiness (Huq, Jackson, & Trinkner, 2016; Tyler 2006b), while legitimacy<sup>10</sup> would be their outcome.

Recently, Huq, Jackson and Trinkner (2016) made use of the dual conception of legitimacy consisting of normative alignment and duty to obey. They try to develop a universal model of police legitimizing practices without the necessity to specify any universal values or practices leading to legitimacy in all social contexts. In other words, it is possible, that the reasons for perceived normative alignment and consent to obey would vary depending on police roles and culture in general.

## Relation between trust and legitimacy

The above sketched conception of police legitimacy may seem very close to common understanding of trust in the police. Frequently, trust is understood as an important police resource for compliance and cooperation with the police. Is it worth distinguishing trust from legitimacy?

Social scientists try to find a fine line between organizational legitimacy and trust in it, especially if they see both concepts as empirically based on what is seen as valuable in the society.<sup>11</sup> Tyler (2006b) understood trust and legitimacy of the police as very close concepts, even though legitimacy for him is stronger than trust, because it functions as a reservoir of support (loyalty) even when the organization's action is not approved. Jackson, Huq and Trinkner (2016) and others (Lyons, 2002) see it also connected, when understanding trustworthiness as predictor of perceived legitimacy. However, other scholars (Bottoms & Tankebe, 2012; Kaina, 2008) warn not to merge trust (as a sense that institutions are performing according to prevalent norms) and legitimacy (as a conviction that

---

<sup>10</sup> As a contentless source of normative alignment or an overarching belief that legal authorities act according to societal expectations of rightful conduct in their use of authority (Huq, Jackson, & Trinkner, 2016, p. 16; p. 3).

<sup>11</sup> This is in contrast to politics, where it is only trust that bears the moral dimension (integrity, common good), while legitimacy is seen as procedural – see for instance account of political legitimacy in Rosanvallón (2008).



institutions are acting in accordance to one's own moral principles). Others (Johnson, Maguire, & Kuhns, 2014) show the empirical distinction between trust and legitimacy of the police. There are situations when people see their institution as legitimate, yet do not trust it (ibid.). Peršak (2014) describes legitimacy as a safety tool against bad practices of trusted institutions – for it is a more objective property than trustworthiness. The objectivity is granted due to social nature of legitimacy beliefs. Recently, Jackson and Gau (2015) attempted to delineate institutional trust and legitimacy more precisely, when they related trust to positive *individual* expectations about valued behaviour<sup>12</sup> from individual representatives of the institution (*policemen*),<sup>13</sup> while legitimacy is a *social* belief based on appropriateness of power of the police as an *institution*. In the context of the police, trust and legitimacy can be seen as distinct, yet related and interdependent, because individual policemen also possesses power of the institution (ibid.). Thus they define institutional trust as a belief that the police use their power lawfully and appropriately and as such it reflects the belief in the right of the police to possess power (aspect of legitimacy) according to them. An argument for conceptual distinction is brought by numerous studies where people judge trustworthiness and legitimacy of the police relatively independently.

With regard to the above mentioned approaches, we can comprehend the relation between trust and legitimacy similarly as the relation between the individual and the social, they are mutually interconnected, but cannot be merged. Their joint usefulness resides in development of social theories based on individual data.

### Limits to the normative model

The seemingly robust finding that perceived appropriateness of the police and felt duty to obey the police lead to compliance with the law and cooperation with the police should not be taken for granted. There may naturally be some confounds in the identified relationship between legitimacy and compliance/cooperation – factors that would influence both perceived legitimacy and compliance/cooperation which could mean there is virtually no real relationship between them. This situation can be controlled by using complex structural models when analyzing the data, which is true only provided that the scholars are aware of the potential confounds and can measure them. For instance, Reisig, Wolfe and Holtfreter (2011) found out that legitimacy (and reversely legal cynicism) are connected to compliance/offending even when statistically controlling for self-control as a potentially confounding variable. There certainly are intervening factors in the postulated relationship between legitimacy and cooperation, such as whether the person has been recently victimized or the type of crime committed. For instance in the study of Tankebe (2013) it turned out, that cooperation was predicted by different factors among recent victims of crime than the others. For the victims, no effect of distributive fairness and weak effect of legality was found while perceived police effectiveness had a significant positive effect. In the non-victim population legality was significantly shaping cooperation, distributive fairness had a weak significant effect and perceived police effectiveness had a negative effect on cooperation. The felt obligation was found to influence willingness

---

<sup>12</sup> Fulfilling the core function of the institution.

<sup>13</sup> Or police behaviour in general (confidence).

to cooperate among young Slovenians in case of break-ins and lost wallets, but not in the bribery of the official authorities (Reisig, Tankebe, & Meško, 2012). Another limit is methodological – most of the studies are cross-sectional, even if trying to prove a causal relationship between legitimacy and compliance/cooperation. Apart from that, the results, however persuasive, have a limited value, because they are based on people's beliefs about the police rather than their real experiences with the police.

Moreover, as Tankebe (2013) states there may be other more powerful factors determining legitimacy, compliance and cooperation that have often not been considered in similar studies – habits, fear etc. (an exception is for instance the study by Jackson et al. 2016a). Jackson et al. (2016a) admit, there can be other than normative reasons for perceived legitimacy of the police. Their normative theory of legitimacy originally reflected the Weber's (1964) understanding of authority<sup>14</sup> as a result of a social belief (Huq, Jackson, & Trinkner, 2016). But as the system justification theory suggests, people may grant legitimacy to systems that do not align with their values, because of psychological needs for stability and security (Jost, Banaji & Nosek, 2004). As Garland (2001) puts it – we are used to the existence of criminal justice institutions so they seem to be eternal. Maintaining the status quo can be more precious than having the police we want. This may also be the reason why people may choose passive tolerance of the police they disapprove over active protests against it (see also Hirschman's exit and escape theory above). This could serve as an invitation for development of competing models and new perspectives in police legitimacy research. Besides that, there are surely aspects of police legitimacy that are not covered by the main course of theorizing of Jackson and his colleagues. Despite calls for plural conceptions of legitimacy in criminology (Huq, Jackson, & Trinkner, 2016), the literature on legitimacy of criminal justice institutions has been almost exclusively devoted to procedural aspects (see further) and the police or prisons (Peršak, 2014). Even though the literature on legitimacy of European law is quite rich, especially in regard to European Union, it is mainly focused on legal perspective. What is also missing, is a macro theory of police legitimacy that would deal with structural factors.

## Sources of police legitimacy

In this section, we discuss two complementary sources of police legitimacy: police performance in a wide sense and a broader social normative context impact of which is channeled through legal socialization. These two groups of factors should be understood as an illustration of the micro and macro aspect of police legitimacy, although they are certainly not the sole sources of it.

### Police performance

Eck and Rosenbaum (1994) enumerate three basic criteria of police performance: effectiveness, efficiency and equity (or fairness). Police performance in such a wide sense

---

<sup>14</sup> *Action, especially social action which involves social relationships, may be oriented by the actors to a belief (Vorstellung) in the existence of a 'legitimate order' (Weber, 1964, p. 124).*



has probably its normative and instrumental dimensions that are empirically distinct – people assess them relatively separately. A recent empirical research in England and Wales by Huq, Jackson and Trinkner (2016) identified **three independent components of policing as vital for legitimacy of the police: procedural fairness, effectiveness and bounded authority** (that the police limit or do not misuse their power<sup>15</sup>), while distributive fairness, electronic surveillance (intrusive investigative techniques) and lawfulness turned out not to be significant in predicting legitimacy of the police.

It is assumed that the above mentioned policing factors do not influence citizen's behaviour through impacting legitimacy to the same extent and under the same conditions. For instance the impact of instrumentally understood police effectiveness (crime control through coercion power) on compliance with the law was found to be rather small compared to impact of procedural fairness in New York City (Tyler & Fagan, 2008). Moreover instrumental police effectiveness is functional largely in reducing just instrumental types of crime (burglary or thefts) and when only surveillance is expected. It makes instrumental strategies to control crime quite ineffective and costly (ibid.). That is why the attention of criminologists and policy makers turned to normative components of police performance as a potential source of police legitimacy. In the next section we show how police legitimacy can be bolstered by procedural fairness.

### Procedurally fair policing

Fair procedures consist of *being neutral (objective decision making and providing equal treatment to citizens)*, *giving voice (allowing citizens an opportunity to tell their side of the story and have an input into the issue at hand)*, *being respectful (treating citizens with dignity and acting respectfully)*, and *being accountable (providing citizens with reasoned explanations for decisions made)* (Jackson et al., 2016a, p. 6). In criminology research it was found that empirical legitimacy of the police and other legal institutions can be strengthened through perceptions of procedurally fair policing, independently from the impact of perceived police effectiveness (Tyler & Fagan, 2008). Manifesting values such as fairness on the side of the police may make people trust the police more and influence their law related behaviour in the long-term. Not only do fair police make people more satisfied with it and compliant with the rules of the society (laws) (Tyler, 2006a),<sup>16</sup> they lead them also to greater cooperation on the tasks of the state authorities (Blader & Tyler, 2009; Bradford, 2014; Tankebe, 2013). It seems that procedural fairness can function also as a buffer against negative impacts of other police actions such as involuntary contact with it (stop and search) (Huq, Jackson, & Trinkner, 2016) which can negatively influence one's trust in it and lower their perceived legitimacy (Skogan, 2006; Tyler, Fagan, & Geller, 2014).

The explanation of why the fair procedures matter is twofold: First, it is seen in relevance of perceived fairness to positive social identity. When the state authorities treat people fairly, they find it as a **sign of being valued within the society** and that enhances

---

<sup>15</sup> ... that police do not abuse the authority that has been vested in them, but rather comply with shared norms of the appropriate official conduct. ... The effect we find is from socially derived conceptions of appropriate behaviour, rather than legally defined parameters of police authority (ibid.: 14).

<sup>16</sup> Similarly once something is seen as legitimate, it is more likely to be seen as fair (Tyler, 2006b).

their sense of social identity (Jackson et al., 2016a). The theory expects that there would be only few people not valuing their social status within the social groups that the police represent. However, it is not fully clear, how minority members who do not identify themselves with the nation, state or community (or counter identify with it) would react.<sup>17</sup> Second, perceived police fairness is a **sign of police morality** in the eyes of the policed and morally acting institutions have higher chance to be granted legitimacy (Jackson et al., 2016b). Governmental institutions such as the police cannot gain legitimacy only through effective production of outcomes in the same way as business or technical organizations, if they are seen as responsible for promoting values of their institutional environment including their electorate (Crank, 2003).

In the **theory of isomorphism**, it has been suggested that legitimacy can be gained by adapting to existing standards, norms or structures (Suchman, 1995, see also Bourdieu, 1986). Institutions can profit from adjusting to structures and forms of already legitimized institutions in the field (which is in organizational literature known under the term isomorphism – Meyer & Rowan, 1977) or even from integration with institutions out of the field (Suchman, 1995). Part of the legitimacy of the police can be for instance granted through their connection to legitimate state and its laws (however, the police often earns greater public trust than political institutions). Isomorphism can be also found in adapting to prevailing ideals of legal rationality<sup>18</sup> and professionalization (ibid.). That is why we expect that adjusting to democratic norms such as procedural fairness should lead to greater perceived legitimacy of the police, at least within democratic societies. Indeed, across developed European and American democratic societies the models of police legitimacy correspond to the identified importance of police procedural fairness (Homolová, 2014; Jonathan-Zamir & Weisburd, 2013; Moravcová, 2016; Reisiğ, Tankebe, & Meško, 2012).

The empirical results thus overall provide an argument for enhancing police legitimacy through training police officers' skills and will to act in procedurally fair ways (Mastrofski et al., 2016). There are multiple functional ways how to promote perceived procedural fairness or compliance with the police. Mazerolle et al. (2013) conducted a meta-analysis of 30 American evaluative studies on interventions<sup>19</sup> aimed at strengthening procedural fairness of the police or their legitimacy. Irrespective of the type of intervention, an overall positive effect of the interventions was observed on perceived procedural fairness of the police, citizen cooperation, compliance and satisfaction with the police or confidence in the police.<sup>20</sup> The authors deduce, that *the actual vehicle (or intervention mode) for police to engage with citizens is less important for fostering positive outcomes than the substantive content of the interaction itself* (ibid.: 76).

---

<sup>17</sup> An interesting finding by Huq, Tyler and Schulhofer (2011) indicates, that procedural fairness leads to willingness to cooperate with the police even among British Muslims, who probably do not have a strong tie with the police due to low identification with British state. Nevertheless, fair police treatment did not change their views of police legitimacy.

<sup>18</sup> For effects of rationality on legitimization see also Tyler (2006b).

<sup>19</sup> Training, directive or organizational innovations, for instance routine patrols, traffic stops, community policing, reassurance policing, problem-oriented policing, conferencing.

<sup>20</sup> However, the effect on perceived police legitimacy itself was not significant (probably due to limited amount of examined studies).

However, the knowledge of principles of fair treatment and skills alone do not guarantee that policemen will behave fairly and respectfully in reality. As Mastrofski and colleagues (2016) have revealed in their observational study in two American police departments, procedurally fair approach was more probable for instance when the policemen subjectively considered people as victims or helpless. The authors interpret their findings with respect to social roles and social scenarios – according to them the practice of procedural fairness can be enhanced or impeded through social schemes, especially when formal rules delineating delivering of fair procedures are limited.

### Legal socialization

Policing is not the only source of gaining police legitimacy. There are without doubt other strong factors of it, such as social values. To paraphrase Ponsaers (2016), police legitimacy is not a property of the police itself. In this section, we provide an account on the impact of socially held general views of the police and their impact on perceived police legitimacy.

The empirical evidence of the power of cultural constructs in policing evaluation has been offered in studies on legal socialization. In the process of legal socialization, people socially learn **legal values** (stable ideals of how legal institutions and people should behave) and more volatile **opinions about legal institutions and the law** (Trinkner & Tyler, 2016). Basically, there are two types of attitudes towards legal authorities, corresponding to consensual and coercive models of policing. The former is based on normative grounds, the latter on dominance (ibid.). As an example of a normative type of a social belief we could rank also the above mentioned ideas of community policing (some would call it even a myth – depicting the community as an idealized small social network on the basis of traditional neighbourhood, and the police officers as its careful guardians – Crank, 2003).

Legal socialization occurs through learning socially valued beliefs and behaviours in legal as well as non-legal contexts (where authority plays a role). The beliefs can be transmitted through a direct contact with the police, massmedia discourse and images as well as behaviour and opinions of our significant others. Research shows that our perception of police legitimacy can be influenced by opinions and behaviour of our community or peers (Fagan & Tyler, 2005; Nix et al. 2015), as well as authority figures in the childhood such as parents and teachers (Trinkner & Cohn, 2014).<sup>21</sup> For instance, when parents treat their child with respect, it may be later reflected in their positive and cooperative relation to other authorities, including the legal ones (Trinkner & Tyler, 2016). In contrast, coercive parenting with use of physical punishments, or inconsistent rules enforcement, may lead to alienated relations with authorities and antisocial attitudes (ibid.). A transfer of parental attitudes to legal authorities has been documented in a longitudinal study using data from the Pathways to Desistance survey<sup>22</sup> (Wolfe, McLean, & Pratt, 2017). The authors found out that parental legitimacy attitudes towards the police are connected to

---

<sup>21</sup> Apart from those social factors, personality may also play role in forming attitudes about legitimacy of the police in socialization (lower level of self-control is associated with lower perceived legitimacy – Wolfe, 2011).

<sup>22</sup> The sample consisted of delinquents aged 14–17 and their parents (ibid.).

attitudes of their children irrespective of the children's later experience with the police. For instance, an unfair police related encounter experienced by the parents can be translated into their belief and influence the next generations through socialization (*ibid.*). Similar results were presented by Cavanagh and Cauffman (2015) concerning similarity of attitudes among delinquent sons and their mothers. These results advert to at least partial family socialization of legitimacy attitudes.

Legal socialization may intervene also in the above mentioned structure of relations between police procedural fairness and police legitimacy. Although there is a preliminary evidence that trustworthiness and fairness of legal authorities are shaping the perceived police right to be obeyed even in African states (Levi, Sacks, & Tyler, 2009), there are certainly cultural differences in the model of relations. For instance, in South Africa and Ghana, procedural fairness seems not to be of the same importance in shaping police legitimacy as it has been found in the US, UK or Australia (Bradford *et al.*, 2014; Tankebe, 2009). For South Africans, not only fair procedures, but also effectiveness mattered in shaping duty to obey and moral alignment (the two legitimacy aspects). Perceived fairness and effectiveness were predicted not only by satisfaction with contact with the police, but also by fear of crime (Bradford *et al.*, 2014). Apart from that, trust in government was important when judging police legitimacy. This may be explained by variability in socially ascribed police (or any authority) tasks and roles. As Brockner *et al.* (2001) found, giving voice as an aspect of procedural fairness was relatively more important for judgments about legitimacy (in managerial context) among people from low-power distance countries (Germany, the US) compared to people from high-power distance countries (China, Mexico, Hong Kong). That is probably due to different normative expectations among the cultures about how much voice people should be given (*ibid.*). In this way, people from Ghana or South Africa may be socially impacted to appreciate fairness relatively less. Also more general social values or beliefs may be at play when evaluating the police, for instance xenophobia (e.g. people want the police to be unfair to minorities), or rather on the contrary norm of equality and representativeness (e. g. the police are demanded to represent the whole society including the minorities) (see for instance Kešetović, 2009).

Nevertheless, the cultural variability in the proposed scheme of the relationship between legitimacy and support for institutions might result also from other factors than values, social norms or roles. It may be caused by different levels of salience of legitimacy issues in different socio-cultural contexts. It is presumed that the more salient legitimacy issues are, the more cognitively accessible and also more differentiated attitudes on legitimacy issues arise. That can change not only the size of the effects but even the structure of relations among different attitudes (Johnson, Maguire, & Kuhns, 2014). Also a legitimizing effect of the state should not be omitted – a corrupted government can hardly grant high status or legitimacy to their police.

Overall it is assumed that where crime, institutional corruption or social inequality are more present, utilitarian factors such as police effectiveness will be relatively more important for people when deciding whether to trust and help their police.

Herbert (2006) notes, that stressing procedural fairness may not earn legitimacy even in Western developed countries with relatively low crime levels due to colliding cultural myths concerning policing. He asserts, with some empirical evidence, that appeals to

police superiority are still present in our society. There are people who expect more robust solutions from the police, some police officers themselves may construe themselves as separate from the public and thus not internalize the community policing model. Herbert consequently suggests introducing formal ways of citizen oversight of the police and focusing police training on problematizing culturally transmitted images of policemen as authoritarians, strong protectors of the weak and powerful moral arbiters. He also suggests that extending the police role beyond pure crime control (implicit in community policing model to him) may actually paradoxically reinforce the cultural myth of powerful and superior police. Thus, albeit the findings about legal socialization may be read as an argument for culturally sensitive policing in the quest for police legitimacy, there is also an inherent risk that personalizing the police approach may legitimate it in unintended ways.

## Discussion

The review of literature on sources and consequences of police legitimacy in current social contexts emphasized importance of legitimacy for active and passive support of the police as well as several problems in theoretical and methodological conceptualization of it. The prevailing criminological model of police empirical legitimacy consisting of two interdependent normative aspects (normative consent and sense of appropriateness) was introduced. A support for such operationalization was sought also in institutionalist theories that contrast the institutional environment to the technical one in terms of their legitimization sources.

Empirical evidence that police legitimacy is shaped by different aspects of police performance and specifically by their procedural fairness was presented. An additional explanation for the identified impact of police fairness on perceived legitimacy (usually explained by psychological phenomena) stemming from organizational theory of isomorphism was offered. At the same time, important limitations to the universal applicability of procedural fairness model such as legal socialization or effects of social roles and scenarios were introduced. That leads us to demand greater attention of criminologists to cognitive types of police legitimacy that are usually overlooked in the mainstream criminology. Questions such as how the police construct and sustain their positive image and how legitimization myths (including not only crime-control but also community policing model) or social schemes influence policemen work need in our view further elaboration.

Proceeding from our review, the anticipated pathways of police legitimacy research are largely psychological. We can expect development of micro-level theories in the field of legal socialization as well as testing the salience hypothesis in regard to legitimacy attitudes, or incorporating the theory of system justification in the model of compliance with the law. This approach may lead to greater consideration of emotional sources of police legitimacy at the individual level (and perhaps blurring the division between normative and instrumental empirical legitimacy).

The demand for micro level approaches is natural given by their relatively easy testability and applicability in criminal policy. However, a profound understanding of human legal behaviour demands enlarging the scope to macro-level phenomena. Most people

do not create their opinion toward the police primarily through direct experiences with it because their encounters with the police are limited. People are part of larger social structures that socialize them into specific sets of expectations about criminal justice. Criminology should pay attention to social factors of police legitimization in the search for feasible ways of plurality policing. The two outlined research tracks can also mutually inspire each other – for instance we could explore effects of democratization, legal socialization and salience of police legitimacy and criminality issues on police legitimacy – in stabilized democracies we can expect more attention to institutional legitimacy and at the same time weaker salience of crime related issues. How do these factors impact formation of attitudes towards the police and legitimization criteria in the democratization process?

The endeavour to understand better the mechanics of police legitimacy yields also certain risks. Above all, researchers should be aware of ethical issues related to legitimacy and treat legitimacy as a neutral term (see Hough et al., 2016). Police training should naturally highlight these risks accordingly, should the democratic police succeed in promoting social well-being.

## REFERENCES

- Beetham, D. (1991). *The legitimation of power*. London: Macmillan Education.
- Blader, S. L., & Tyler, T. R. (2009). Testing and extending the group engagement model: linkages between social identity, procedural justice, economic outcomes, and extrarole behavior. *Journal of Applied Psychology, 94*(2), 445–464.
- Bottoms, A., & Tankebe, J. (2012). Beyond procedural justice: A dialogic approach to legitimacy in criminal justice. *The Journal of Criminal Law and Criminology, 102*(1), 119–170.
- Bourdieu, P. (1979). Symbolic power. *Critique of Anthropology, 4*(13–14), 77–85.
- Bourdieu, P. (1986). The force of law: Toward a sociology of the juridical field. *The Hastings Law Journal, 38*, 805–853.
- Bradford, B. (2014). Policing and social identity: Procedural justice, inclusion and cooperation between police and public. *Policing and Society, 24*(1), 22–43.
- Bradford, B., Huq, A., Jackson, J., & Roberts, B. (2014). What price fairness when security is at stake? Police legitimacy in South Africa. *Regulation & Governance, 8*(2), 246–268.
- Bradford, B., & Loader, I. (2016). Police, crime and order: The case of stop and search. In B. Bradford, I. Loader, B. Jauregui & J. Steinberg (Eds.), *The SAGE Handbook of Global Policing* (241–260). London: SAGE Publications.
- Brockner, J., Ackerman, G., Greenberg, J., Gelfand, M. J., Francesco, A. M., Chen, Z. X., & Shapiro, D. (2001). Culture and procedural justice: The influence of power distance on reactions to voice. *Journal of Experimental Social Psychology, 37*(4), 300–315.
- Cavanagh, C., & Cauffman, E. (2015). Viewing law and order: Mothers' and sons' justice system legitimacy attitudes and juvenile recidivism. *Psychology, Public Policy, and Law, 21*(4), 432–441.
- Clark, I. (2005). *Legitimacy in international society*. Oxford University Press.
- Coicaud, J. M., & Curtis, D. A. (2002). *Legitimacy and politics: A contribution to the study of political right and political responsibility*. Cambridge University Press.
- Cooper, J. A. (2014). *In search of police legitimacy: Territoriality, isomorphism, and changes in policing practices*. El Paso: LFB Scholarly Publishing.
- Crank, J. P. (2003). Institutional theory of police: A review of the state of the art. *Policing: An International Journal of Police Strategies & Management, 26*(2), 186–207.
- Denef, S., Bayerl, P. S., & Kaptein, N. A. (2013). Social media and the police: Tweeting practices of British police forces during the August 2011 riots. In J. A. Konstan, E. Chi & K. Höök (Eds.), *Proceedings of the SIGCHI conference on human factors in computing systems* (3471–3480). New York: ACM Press.



- Eck, J. E., & Rosenbaum, D. (1994). The new police order. Effectiveness, equity, and efficiency in community policing. In D. Rosenbaum (Ed.), *The challenge of community policing: Testing the promises* (3–23). Thousand Oaks: SAGE Publications.
- Fagan, J., & Tyler, T. R. (2005). Legal socialization of children and adolescents. *Social Justice Research*, 18(3), 217–241.
- Garland, D. (2001). *The culture of control*. Oxford University Press.
- Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. Berkeley: University of California Press.
- Herbert, S. (2006). Tangled up in blue: Conflicting paths to police legitimacy. *Theoretical Criminology*, 10(4), 481–504.
- Hirschman, A. O. (1970). *Exit, voice, and loyalty: Responses to decline in firms, organizations, and states*. Harvard University Press.
- Homolová, P. (2014). Trust in criminal justice and compliance with the law in Czech society: Testing the Normative Hypothesis on 1999 and 2011 Samples. *Varstvoslovje*, 16(4), 412–434.
- Hough, M., Bradford, B., Jackson, J., & Quinton, P. (2016). *Does legitimacy necessarily tame power? Some ethical issues in translating procedural justice principles into justice policy*. (Law, Society and Economy Working Papers 13/2016). London School of Economics and Political Science.
- Huq, A. Z., Tyler, T. R., & Schulhofer, S. J. (2011). Mechanisms for eliciting cooperation in counterterrorism policing: Evidence from the United Kingdom. *Journal of Empirical Legal Studies*, 8(4), 728–761.
- Huq, A. Z., Jackson, J., & Trinkner, R. (2016). *Acts that legitimate: Widening the array of predicate policing practices*. (Public Law and Legal Theory Working Paper No. 570). University of Chicago.
- Jackson, J., Huq, A. Z., Bradford, B., & Tyler, T. R. (2013). Monopolizing force? Police legitimacy and public attitudes toward the acceptability of violence. *Psychology, Public Policy, and Law*, 19(4), 479–510.
- Jackson, J., & Gau, J. M. (2015). Carving up concepts? Differentiating between trust and legitimacy in public attitudes towards legal authority. In E. Shockley, T. M. Neal, L. M. PyltikZillig & B. H. Bornstein (Eds.), *Interdisciplinary perspectives on trust: Towards theoretical and methodological integration* (49–69). Springer International Publishing.
- Jackson, J., Bradford, B., MacQueen, S., & Hough, M. (2016a, September 3). *Truly free consent? Clarifying the nature of police legitimacy*. Retrieved from <http://dx.doi.org/10.2139/ssrn.2620274>.
- Jackson, J., Hough, M., Bradford, B., & Kuha, J. (2016b). Empirical legitimacy as two connected psychological states. In G. Meško & J. Tankebe (Eds.), *Trust and legitimacy in criminal justice* (137–160). Springer International Publishing.
- Jauregui, B. (2013). Beatings, beacons, and big men: Police disempowerment and delegitimation in India. *Law & Social Inquiry*, 38(3), 643–669.
- Johnson, D., Maguire, E. R., & Kuhns, J. B. (2014). Public perceptions of the legitimacy of the law and legal authorities: Evidence from the Caribbean. *Law & Society Review*, 48(4), 947–978.
- Jonathan-Zamir, T., & Weisburd, D. (2013). The effects of security threats on antecedents of police legitimacy: Findings from a quasi-experiment in Israel. *Journal of Research in Crime and Delinquency*, 50(1), 3–32.
- Jost, J. T., Banaji, M. R., & Nosek, B. A. (2004). A decade of system justification theory: Accumulated evidence of conscious and unconscious bolstering of the status quo. *Political Psychology*, 25(6), 881–919.
- Kaina, V. (2008). Legitimacy, trust and procedural fairness: Remarks on Marcia Grimes' study. *European Journal of Political Research*, 47(4), 510–521.
- Kane, R. J. (2003). Social control in the metropolis: A community-level examination of the minority group-threat hypothesis. *Justice Quarterly*, 20(2), 265–295.
- Kešetović, Ž. (2009). Understanding diversity in policing: Serbian perspectives. *Policing: An International Journal of Police Strategies & Management*, 32(3), 431–445.
- Kury, H., Meško, G., Mitar, M., & Fields, C. (2009). Slovenian police officers' attitudes towards contemporary security threats and punishment. *Policing: An International Journal of Police Strategies & Management*, 32(3), 415–430.
- Kutnjak Ivković, S. (2009). The Croatian police, police integrity, and transition toward democratic policing. *Policing: An International Journal of Police Strategies & Management*, 32(3), 459–488.

- Kutnjak Ivković, S. K., Haberfeld, M., Kang, W., Peacock, R., & Sauerman, A. (2016). A multi-country comparative study of the perceived police disciplinary environments. *Policing: An International Journal of Police Strategies & Management*, 39(2), 338–353.
- Levi, M., Sacks, A., & Tyler, T. (2009). Conceptualizing legitimacy, measuring legitimating beliefs. *American Behavioral Scientist*, 53(3), 354–375.
- Lipset, S. M. (1983). *Political man: The social bases of politics*. London: Heinemann.
- Loader, I., & Mulcahy, A. (2003). *Policing and the condition of England: Memory, politics and culture*. Oxford University Press.
- Lyons, W. (2002). Partnerships, information and public safety: Community policing in a time of terror. *Policing: An International Journal of Police Strategies & Management*, 25(3), 530–542.
- Manning, P. K. (1978). The police: Mandate, strategies, and appearances. In P. K. Manning & J. V. Maanen (Eds.), *Policing: A view from the street* (7–32). Santa Monica: Goodyear Publishing Company.
- Mastrofski, S. D. (1999). Policing for people. *Ideas in American Policing*. Washington DC: The Police Foundation. Retrieved from <https://www.policefoundation.org/wp-content/uploads/2015/06/Mastrofski-1999-Policing-For-People.pdf>.
- Mastrofski, S. D., Jonathan-Zamir, T., Moyal, S., & Willis, J. J. (2016). Predicting procedural justice in police–citizen encounters. *Criminal Justice and Behavior*, 43(1), 119–139.
- Mawby, R. C. (2002). *Policing images: Policing, communication and legitimacy*. Cullompton: Willan Publishing. Retrieved from <http://site.ebrary.com/lib/natl/Doc?id=10750545>.
- Mawby, R. C. (2012). Models of policing. In T. Newburn (Ed.), *Handbook of policing* (17–46). London: Routledge.
- Mazerolle, L., Bennett, S., Davis, J., Sargeant, E., & Manning, M. (2013). *Legitimacy in policing: A systematic review*. (Campbell Systematic Reviews 2013/1). Oslo: The Campbell Collaboration.
- Meares, T. L. (2012). The good cop: Knowing the difference between lawful or effective policing and rightful policing and why it matters. *William & Mary Law Review*, 54(6), 1865–1886.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340–363.
- Moravcová, E. (2016). Willingness to cooperate with the police in four central European countries. *European Journal on Criminal Policy and Research*, 22(1), 171–187.
- Murphy, K., Bradford, B., & Jackson, J. (2016). Motivating compliance behavior among offenders: Procedural justice or deterrence? *Criminal Justice and Behavior*, 43(1), 102–118.
- Nix, J., Wolfe, S. E., Rojek, J., & Kaminski, R. J. (2015). Trust in the police: The influence of procedural justice and perceived collective efficacy. *Crime & Delinquency*, 61(4), 610–640.
- Palthe, J. (2014). Regulative, normative, and cognitive elements of organizations: Implications for managing change. *Management and Organizational Studies*, 1(2), 59–66.
- Papachristos, A. V., Meares, T. L., & Fagan, J. (2012). Why do criminals obey the law? The influence of legitimacy and social networks on active gun offenders. *The Journal of Criminal Law and Criminology*, 102(2), 397–440.
- Peršak, N. (2014). Beyond procedural justice: Some neglected aspects of legitimacy of criminal law, policy and justice. In N. Peršak (Ed.), *Legitimacy and trust in criminal law, policy, and justice: Norms, procedures, outcomes* (1–12). Farnham: Ashgate Publishing.
- Piquero, A. R., Fagan, J., Mulvey, E. P., Steinberg, L., & Odgers, C. (2005). Developmental trajectories of legal socialization among serious adolescent offenders. *The Journal of Criminal Law & Criminology*, 96(1), 267–298.
- Ponsaers, P. (2015). Is legitimacy police property? In G. Meško & J. Tankebe (Eds.), *Trust and legitimacy in criminal justice* (93–110). Springer International Publishing.
- Reisig, M. D., & Meško, G. (2009). Procedural justice, legitimacy, and prisoner misconduct. *Psychology, Crime and Law*, 15(1), 41–59.
- Reisig, M. D., Wolfe, S. E., & Holtfreter, K. (2011). Legal cynicism, legitimacy, and criminal offending: The nonconfounding effect of low self-control. *Criminal Justice and Behavior*, 38(12), 1265–1279.
- Reisig, M. D., Tankebe, J., & Meško, G. (2012). Procedural justice, police legitimacy, and public cooperation with the police among young Slovene adults. *Varstvoslovje*, 14(2), 147–164.
- Rosanvallon, P. (2008). *Counter-democracy: Politics in an age of distrust*. Cambridge University Press.



- Sillince, J. A., & Brown, A. D. (2009). Multiple organizational identities and legitimacy: The rhetoric of police websites. *Human Relations*, 62(12), 1829–1856.
- Skogan, W. G. (2006). Asymmetry in the impact of encounters with police. *Policing & Society*, 16(02), 99–126.
- Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20(3), 571–610.
- Tankebe, J. (2009). Public cooperation with the police in Ghana: Does procedural fairness matter? *Criminology*, 47(4), 1265–1293.
- Tankebe, J. (2013). Viewing things differently: The dimensions of public perceptions of police legitimacy. *Criminology*, 51(1), 103–135.
- Tankebe, J., Reising, M. D., & Wang, X. (2016). A multidimensional model of police legitimacy: A cross-cultural assessment. *Law and Human Behavior*, 40(1), 11–52.
- Trinkner, R., & Cohn, E. S. (2014). Putting the “social” back in legal socialization: Procedural justice, legitimacy, and cynicism in legal and nonlegal authorities. *Law and Human Behavior*, 38(6), 602–617.
- Trinkner, R., & Tyler, T. R. (2016). Legal socialization: Coercion versus consent in an era of mistrust. *Annual Review of Law and Social Science*, 12, 417–439.
- Tyler, T. R. (2004). Enhancing police legitimacy. *The Annals of the American Academy of Political and Social Science*, 593(1), 84–99.
- Tyler, T. R. (2006a). *Why people obey the law*. Princeton University Press.
- Tyler, T. R. (2006b). Psychological perspectives on legitimacy and legitimation. *Annual Review of Psychology*, 57, 375–400.
- Tyler, T. R., & Huo, Y. (2002). *Trust in the law: Encouraging public cooperation with the police and courts*. New York: Russell Sage Foundation.
- Tyler, T. R., & Fagan, J. (2008). Legitimacy and cooperation: Why do people help the police fight crime in their communities. *Ohio State Journal of Criminal Law*, 231(6), 231–275.
- Tyler, T. R., Fagan, J., & Geller, A. (2014). Street stops and police legitimacy: Teachable moments in young urban men’s legal socialization. *Journal of Empirical Legal Studies*, 11(4), 751–785.
- Vaughan, B. (2007). The provision of policing and the problem of pluralism. *Theoretical Criminology*, 11(3), 347–366.
- Weber, M. (1964). *The theory of social and economic organization*. New York: Free Press of Glencoe.
- Weber, M. (1972). *Wirtschaft und Gesellschaft: Grundriss der verstehenden Soziologie: Studienausgabe*. Tübingen: J. C. B. Mohr (Paul Siebeck).
- Weigand, F. (2015). *Investigating the role of legitimacy in the political order of conflict-torn spaces*. (Security in Transition: Working Paper Series No. 4). London: London School of Economics. Retrieved from <http://www.securityintransition.org/wp-content/uploads/2015/04/Legitimacy-in-the-Political-Order-of-Conflict-torn-Spaces.pdf>.
- Wolfe, S. E. (2011). The effect of low self-control on perceived police legitimacy. *Journal of Criminal Justice*, 39(1), 67–74.
- Wolfe, S. E., McLean, K., & Pratt, T. C. (2017). I learned it by watching you: Legal socialization and the intergenerational transmission of legitimacy attitudes. *British Journal of Criminology*, 57(5), 1123–1143.



---

## SINISTER CONNECTIONS: HOW TO ANALYSE ORGANISED CRIME WITH SOCIAL NETWORK ANALYSIS?<sup>1</sup>

TOMÁŠ DIVIÁK

Department of Sociology, Faculty of Arts, Charles University & Department of Sociology, University of Groningen, and Interuniversity Center for Social Science Theory and Methodology, The Netherlands

E-mail: tomas.diviak@gmail.com

### ABSTRACT

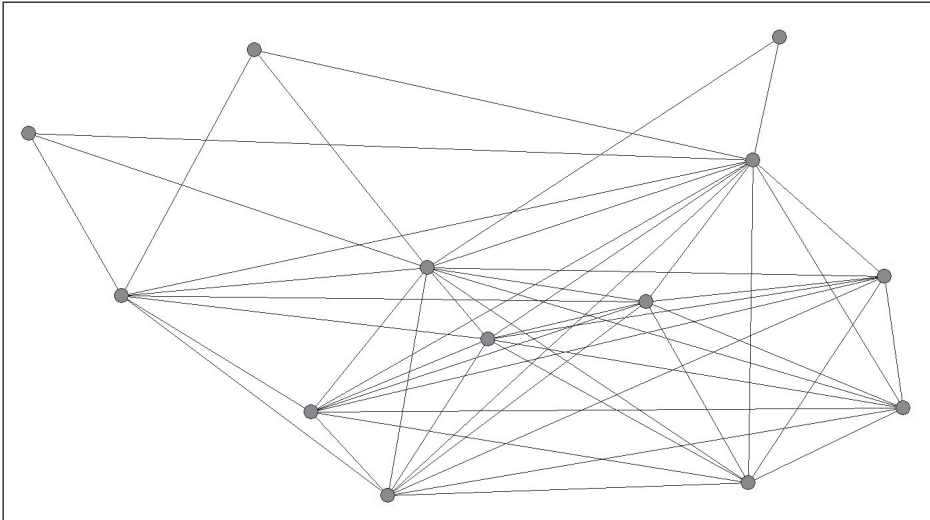
Networks have recently become ubiquitous in many scientific fields. In criminology, social network analysis (SNA) provides a potent tool for analysis of organized crime. This paper introduces basic network terms and measures as well as advanced models and reviews their application in criminological research. The centrality measures – degree and betweenness – are introduced as means to describe relative importance of actors in the network. The centrality measures are useful also in determining strategically positioned actors within the network or providing efficient targets for disruption of criminal networks. The cohesion measures, namely density, centralization, and average geodesic distance are described and their relevance is related to the idea of efficiency-security trade-off. As the last of the basic measures, the attention is paid to subgroup identification algorithms such as cliques, k-plexes, and factions. Subgroups are essential in the discussion on the cell-structure in criminal networks. The following part of the paper is a brief overview of more sophisticated network models. Models allow for theory testing, distinguishing systematic processes from randomness, and simplification of complex network structures. Quadratic assignment procedure, blockmodels, exponential random graph models, and stochastic actor-oriented models are covered. Some important research examples include similarities in co-offending, core-periphery structures, closure and brokerage, and network evolution. Subsequently, the paper reflects the three biggest challenges for application of SNA to criminal settings – data availability, proper formulation of theories and adequate methods application. In conclusion, readers are referred to books and journals combining SNA and criminology as well as to software suitable to carry out SNA.

**Key words:** social network analysis; network models; criminal networks; covert networks; organized crime

In recent years, there has been a huge influx of interest in networks in basically every scientific field and also in our everyday language. Networks are now studied in such various fields as computer science, physics, biology, and social sciences such as economics and sociology (Newman, 2010). Some researchers even speak of a brand new field of study – network science (Robins, 2015). In social sciences, the term network has been connected to globalisation, social media, and more generally to a fundamentally new

---

<sup>1</sup> The preparation of this journal article was supported by the Charles University funding scheme Progres Q15.



**Figure 1:** A graph of a network with nodes (points) and edges (lines)

form of social organization. Networks are supposed to be fluid, flexible, dynamic, global, and omnipresent, yet it is often not clear, what exactly these networks are, how they are defined or how should we think about them. Amidst the “network revolution” the term *network* has been used so widely, that it could be considered a buzzword. Even though there have been earlier attempts to marry network perspective with criminology and criminal intelligence (Krebs, 2002; Sparrow, 1991), some researchers argue that criminology might have been left a little bit behind this network trend (Papachristos, 2014). However, the network perspective has much to offer for criminology and especially for the study of organized crime. This paper introduces the network thinking into the criminological research and points out potential benefits of this synthesis.

It is important to clarify what is meant by networks here. The concept of network may be rather broad. The network is defined here as a set of actors and a relation among them, indicated by a collection of dyadic ties (see Figure 1). This is a definition commonly used in social network analysis (SNA). And since all the forms of organisation are based on human interactions and relations, they can be subsumed under networks (Carrington, 2011; von Lampe, 2009). Within this conceptualization, networks capture “the least common denominator” of organized crime – human relations (McIlwain, 1999). Networks in this sense are thus an instrument which can capture any hypothetical form the organized crime can take – be it hierarchy, market or ethnic communities (Le, 2012). Social network analysis methods can then empirically describe and test to which extent they are hierarchical or decentralized, stable or fluid, or in general – how they are structured or in other words, *how* are they organized. After all, this is a major question in the whole field of organized crime studies (von Lampe, 2009).

Criminal networks are special cases of so-called covert networks<sup>2</sup>. The underlying assumption is that covert networks are defined by the need of actors involved in them to remain concealed (Oliver, Crossley, Everett, Edwards, & Koskinen, 2014). Such an environment and context, where it is principal to hide, modifies interactions and relations (Morselli, 2009: 8). The focal point of studying criminal networks is first trying to determine how interactions and relations among a group of offenders intertwine and build up to create a network, and then analyse this with the use of SNA. In this paper, we introduce the most important concepts in SNA, from the basic terminology, through descriptive measures of networks to advanced network models. We will also illustrate criminological applications of these concepts.

## Basic terminology

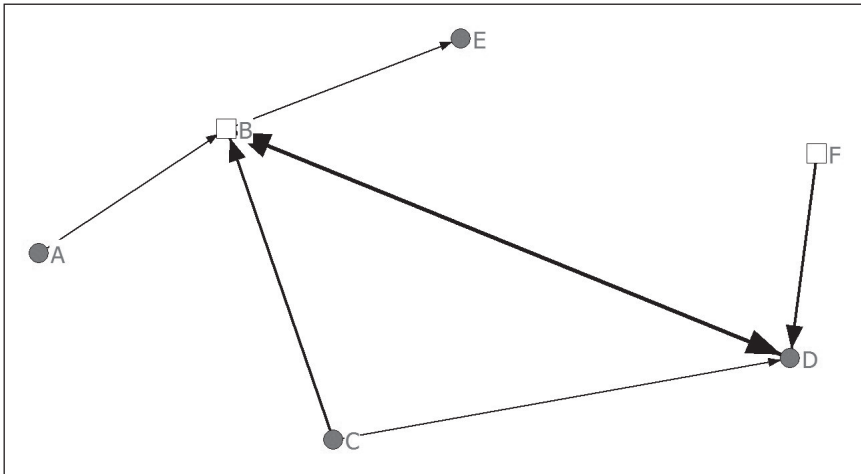
We define network as a set of nodes and ties<sup>3</sup> among them (Borgatti, Everett, & Johnson, 2013; Hanneman & Riddle, 2005; Wasserman & Faust, 1994)<sup>4</sup>. *Nodes* can represent any entity, but in social sciences, they usually represent social actors. Specifically, in the study of organized crime, nodes represent offenders such as traffickers, terrorists, gang members etc. Nodes can carry various *attributes*, for example they may have different genders (binary attribute), possess different skills (categorical attribute), have different attitudes towards various things (ordinal attribute) or be of different wealth (continuous attribute). *Ties* are what connect them; the collection of all ties between the nodes in the node set defines the *relation*. This definition encompasses a broad range of phenomena. Relations may be either undirected or directed. Undirected relations are by definition mutual such as being at the same place at the same time (co-attendance), being members of the same organization (co-membership) or sharing a background (e.g. being university classmates or relatives). Directed relations allow for specifying from which node to which other the tie goes. These often represent flows of resources (e.g., money or drugs) or communication (e.g., who calls whom). Generally, in cases of one actor sending a tie to another and the other potentially sending or not sending it back (so-called reciprocity), the ties are defined as directed, whereas in cases the reciprocity is “automatic”, ties should be defined as undirected. In addition to directionality, ties may also vary in their strength or value. The simplest case is a network of binary ties, where a tie is either present or absent. Like other variables, tie variables can be dichotomous (the simplest case just mentioned), ordinal, discrete, or continuous. An important distinction further is between positive (friendship) and negative (enmity) relations. All these distinctions have implications for

---

<sup>2</sup> For a deeper discussion on the relation of covertness and legality of various networks, see (Milward & Raab, 2006) we try to understand and interpret why and how dark networks manage to survive despite massive control efforts by nation states, thus demonstrating a high degree of resilience. We approach this question from an organizational perspective looking at the (organizational).

<sup>3</sup> The term “node” is interchangeable with the term “vertex” and in social sciences with the term “actor” (in the cases where nodes represent actors). Similarly, the term “tie” is sometimes interchanged with the term “edge” or “arc” (arc refers to a directed tie).

<sup>4</sup> There are many more network concepts and measures than those described here. For further reference, see the introductory text by Borgatti, Everett, & Johnson (2013) or an intermediary book by (Robins, 2015).



**Figure 2:** An example network with 6 nodes with a binary attribute displayed with different colors and shapes (white squares = female, grey circles = male) and 7 directed weighted ties among them (the B to D tie is reciprocated, i.e., goes in both directions)

which methods to use and how. Most methods have been developed for relations with dichotomous tie variables. All these aspects of network can be visually represented in network graphs. These visualizations are also known as sociograms and they have been invented by Jacob L. Moreno (1934), the father of sociometry – a precursor to SNA.

The information on criminals and ties among them is based on the available data. Collecting the data can be a daunting task as observing a group of people who by definition try to avoid any detection excludes usual ways of collecting data in social sciences. Therefore, we usually analyse secondary data on criminal networks. This data may come, for example, from police investigation and surveillance, trial testimonies, court documents, archives, other research or from media reports. All these sources have different liabilities and advantages – police data may not be accessible, testimonies may be purposefully distorted by defendants, archival data may be incomplete and media reports may have questionable validity. What is important is to be wary of the shortcomings of the data we use and be as careful as possible with their procession and analysis. We will come back to the issue of data in this field in the last part of this paper.

### Centrality measures<sup>5</sup>

Centrality measures are probably the most well-known and the most widely used concept within the SNA (Morselli, 2009: 38). Centrality measures are a set of methods which are used to identify the most prominent nodes in the network (Freeman, 1978). This is obviously very important in the context of criminal network analysis, as the most central actors are suitable targets for monitoring and subsequent disruption of the network,

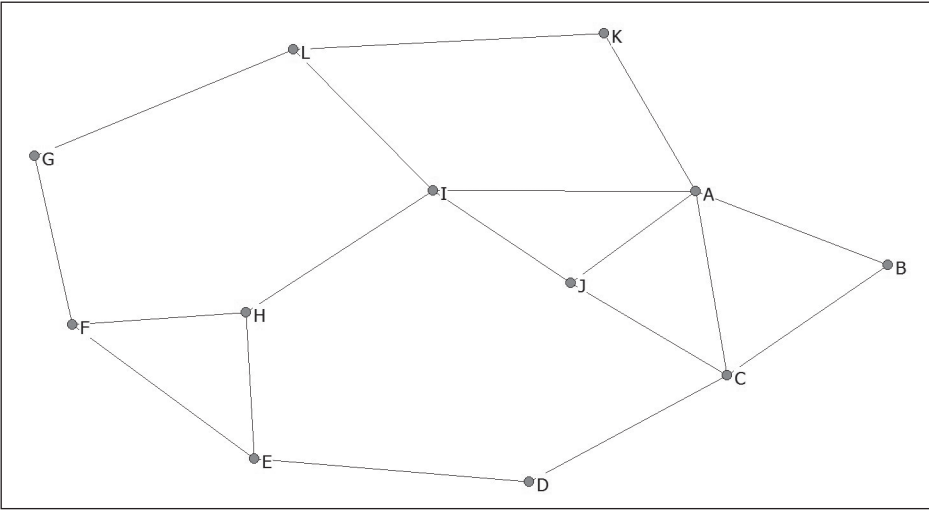
<sup>5</sup> Overview of centrality measures can be found in a paper by (Borgatti, 2005).

which is of great interest for law enforcement (Sparrow, 1991). Furthermore, organizing activities of central actors often explain the organization of the whole group, its ability to adapt to a changing environment, profit or survive in the face of disruption (Bright et al., 2012; Morselli, 2009; Oliver et al., 2014). There are tens of different centrality measures and while it is by far not necessary to compute all of them, it is also never redundant to compute more than one. Even though they relate to the same concept (that is the relative importance of a node within a network), each of them approaches this concept from a different angle and thus they are complimentary to each other. Here, we will take a look at just two of these measures, which are arguably the most important and also the most frequently used; degree and betweenness.

*Degree* captures the simplest intuitive notion of an important actor – it is such a node, which has the most ties to other nodes. The high number of direct contacts allows such an actor to access a lot of information and potentially exercise direct control over adjacent actors in the network. Formally, the degree of a node is the sum of its ties. In directed networks, we can distinguish two kinds of degree – indegree and outdegree. Whereas indegree refers to the number of incoming ties (directed towards the node), outdegree refers to the number of outgoing ties (directed from the node). In valued networks, not only the plain number of ties can be computed, but also the sum of their values, so that degree tells us for example how many times has a particular node met with others or how much money has he or she received. In Figure 2, B is the node with the highest degree.

The centrality measure called *betweenness* defines important nodes from a different point of view than degree. Central actors in terms of betweenness are those, who stand between other nodes in the network. Between each pair of nodes within the network, if there is a sequence of connected nodes between them, we can find the shortest sequence known as the *geodesic path*. For example, between nodes A and F in the Figure 3, there are numerous paths leading from one to the other. However, only the path through nodes I and H is the shortest (of length 3) making it the geodesic path between A and F. The betweenness of a node then is the proportion of geodesic paths between all pairs of nodes in the network that pass through this node. Betweenness is very important for relations that have to do with communication or other processes where indirect connectedness is important while long geodesic distances are costly, because then high betweenness means having an important position through which much of the flows will pass. Actors with high betweenness scores are sometimes coined as brokers or gatekeepers – they bridge connection to others in the network and control flows of, for instance, information, goods, in the network. In the network in Figure 3, the node with the highest betweenness is I, whereas A has the highest degree. Brokers may also be crucial for keeping the network connected (Morselli & Roy, 2008).

In some networks degree and betweenness are highly correlated, that is, nodes which have high score in one measure tend to have high score in the other as well. However, this is not necessary – criminal networks in particular are often exceptions to this pattern. Having a high degree may have a significant drawback in such networks, because a high number of ties means a high number of interactions and therefore high visibility which in turn leads to higher chance of being detected – which the actors in criminal networks obviously try to avoid. Some actors may act in such a way that

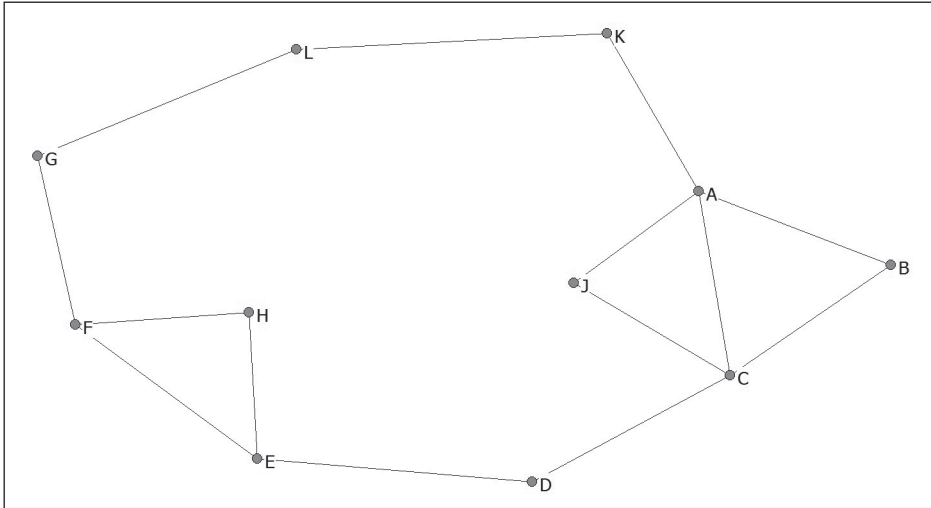


**Figure 3:** An example network

they try to minimize redundant connections, but compensate for it by assuming key brokerage positions, which allows them to retain control of the most important information, resources, and co-offenders in the network, while being less visible and thus susceptible to detection. This is called strategic positioning (Morselli, 2010). In the case of having high scores in both degree and betweenness, the vulnerability connected with high degree may outweigh the advantages of betweenness (Morselli, 2009). Strategically positioned actors have been observed for example in networks of drug trafficking operations of the Hells Angels gang (ibid.), an Australian drug trafficking network (Bright, Greenhill, Ritter, & Morselli, 2015), or Calabrian N'dranghetta's cocaine dealing activities (Calderoni, 2012). However, in some other cases where it was studied, this phenomenon has not been present, such as in the case of political corruption (Diviák, Dijkstra, & Snijders, 2017) or in another case of drug trafficking network (Hofmann & Gallupe, 2015). These results suggest that while strategic positioning is not universal, it is worth paying attention to it.

A closely related topic to the centrality of actors is the problem of criminal network disruption. Since the law enforcement usually has only limited resources for disrupting criminal networks, it needs to allocate them as efficiently as possible. Disruption is a state of a network, in which it can no longer serve the purpose it was designed to serve (Carley, Lee, & Krackhardt, 2002; Bright, 2015). In a disrupted network, resources and information are unable to flow properly and actors involved in them cannot communicate smoothly and reach a consensus (Carley, Lee, & Krackhardt, 2002). Central nodes within the network, and brokers particularly, have been proven to be suitable targets for such an efficient disruption, as in both simulation and longitudinal studies, removal of a central node caused the most damage to the network in comparison to random node removal or removal based on attributes of nodes (such as possession of skills and resources; Bright, 2015). This fact has been demonstrated in number of empirical studies – in the case of





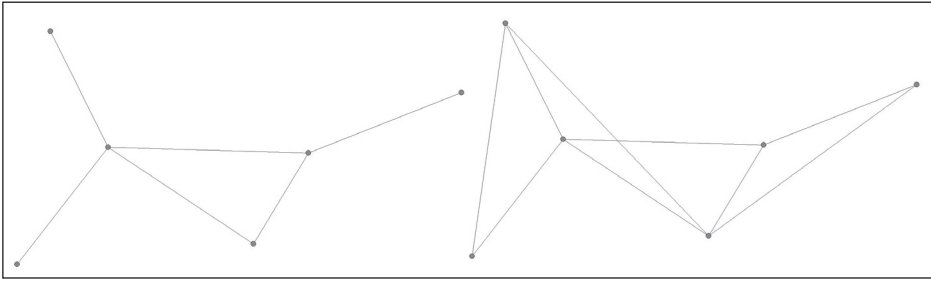
**Figure 4:** A graph showing the effect of a central node (I) removal

a hacker network (Décary-Héту & Dupont, 2012), terrorist, drug trafficking, and gang networks (Xu & Chen, 2008), and ringing operations network (Morselli & Roy, 2008). This area of research is very vivid and more research is being done, particularly in relation to network dynamics and their ability to recover from disruption (Bright, 2015; Duijn, Kashirin, & Sloot, 2014).

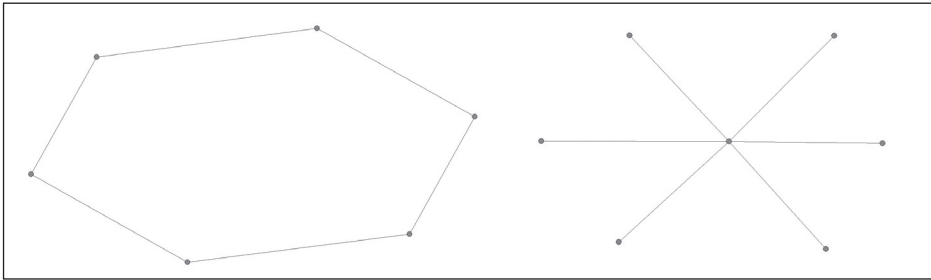
### Cohesion measures

Whereas centrality measures focus on individual nodes within the network, cohesion measures focus on the network as a whole. Specifically, cohesion measures indicate how well connected or cohesive (hence the name) the whole network is. In more cohesive networks, information and resources flow easily, goals can be reached effectively, infiltration and disruption may be more difficult, and norms and identity among the nodes tend to be similar (Borgatti, Everett, & Johnson, 2013: 181; McGloin & Kirk, 2010). Much like in the case of centrality, there are different ways of expressing cohesiveness of a network which are mutually complimentary. Here, we will introduce measures which are based on the number of ties within the network, on the spread of the ties within the network, and on the distance among the nodes.

The intuitive image of a cohesive network is a network in which nodes are well connected to each other. *Density* is a measure which captures this. It is a proportion of ties present in the network relative to the maximum number of possible ties in the network (that is the number of all pairs of nodes). The result ranges from 0 to 1, where 0 means that the network is just composed of all isolated nodes, while 1 means that each node has a tie to each other in the network. This implies that density can also be expressed as a percentage. The average of the degrees is an alternative measure of cohesion. This contains



**Figure 5:** A sparse (density = 0.4) and a dense (density = 0.8) network with 6 nodes



**Figure 6:** A circle network and a star network

the same information as the density, because the average degree is the density multiplied by the number of nodes minus 1. For most social networks the average degree is a more directly interpretable measure than the density, because it is more directly experienced by the actors. Density is mostly inversely related to the network size – with an increase of the number of nodes, the density tends to decrease (Everton, 2012).

It is not only the sheer number of ties that matters for cohesiveness of the network, but also their spread. In other words, in some cases, ties can be concentrated around a few very central nodes and in other cases, ties may be evenly spread among all the nodes. This is captured by measures called *centralization*. Essentially, centralization tells us to which extent does a particular network resemble a star network, which is a maximally centralized network around one node with ties to all others and no other ties among them. If centralization equals 1, it is a star network, while if it equals 0, then each node in the network has the same number of ties. Similarly to average degree, we can also use the standard deviation of degrees to indicate the spread of ties in the network as an alternative to centralization (Snijders, 1981).

When we defined the betweenness above, we used a concept of geodesic distance to do so. *Geodesic distance* is the shortest path (the smallest number of ties) between a given pair of nodes. In this vein, we can think of a cohesive network as a network with short geodesic distances among the nodes. We can then simply characterize a network with an average geodesic path length. The smaller this average is, the more cohesive the network is in these terms. A measure of variability of geodesic path length is the *diameter* of the network. The diameter is the longest geodesic distance in the network, and indicates how

many steps a piece of information or a resource needs for traveling between the two most remote nodes in the network.

Greater cohesion of the network initially increases its flexibility and the potential for interaction of its actors. However, beyond a certain point, increased cohesion may stifle these advantages (Everton, 2012). This is because both extreme sparsity and extreme density are disadvantageous. On the one hand, very low density leads to insufficient cooperation, coordination, social control among the actors and thus the inability to reach goals. On the other hand, overtly dense network structure leads to too much social control and too much similarity among the actors, which hampers their ability to perform complex tasks and to adapt to varying conditions. This relates closely to what Morselli, Giguère, and Petit (2007) called the efficiency/security trade-off. They argue that “criminal network participants face a consistent trade-off between organizing for efficiency or security” (ibid.: 143). Efficiency indicates that participants in criminal networks interact and communicate with each other frequently by having a lot of ties. But as we have already shown on the strategic positioning, a lot of ties come at a price of being easily detectable and thus vulnerable, undermining the security of the network. If criminals opt for more secure communication design with a lower number ties instead, their ability to efficiently coordinate the whole network decreases. According to Morselli and colleagues (2007), the goal determines whether a network will be structured efficiently or securely. Ideologically driven networks (terrorists) are supposed to be particular at assuring security, as they operate within long time frames preparing to carry out one carefully planned action (typically an attack). To achieve this, they have to remain as secure as possible. The efficiency is a feature of networks driven by financial profit, such as smugglers, traffickers or drug dealers, who operate within short time frames in order to generate profit and thus need numerous ties. This idea challenges the very basic assumption of the field of criminal networks – the primary emphasis on security and covertness of actors within these networks. Testing this hypothesis empirically is currently one of the focal points in the field (Wood, 2017).

## Subgroups detection<sup>6</sup>

One common feature of networks created by human actors is the tendency of actors to create smaller groups which are usually more cohesive (i.e., dense) than the overall network (Newman & Park, 2003). This tendency is called clustering. Within such subgroups actors are more likely to share norms, values, resources, and thus actors involved in them are strongly influenced by other members of their subgroup (Borgatti et al., 2013: 181). In criminal networks, subgroups might represent closely cooperating task groups. As with the centrality measures, there are numerous ways to detect subgroups and more and more are being developed<sup>7</sup>. Here, we will take a look at the most frequently used ones; cliques and factions.

---

<sup>6</sup> Other terms, such as “cohesive subgroups”, “clusters” or “communities”, are used to label this type of sets of nodes within the network. Since the term “community” has other meanings across social sciences, “clusters” may create confusion with cluster analysis and for clarity purposes, we will simply talk about “subgroups” here.

<sup>7</sup> An elaborated and more technical review of these methods was provided by (Fortunato, 2010).

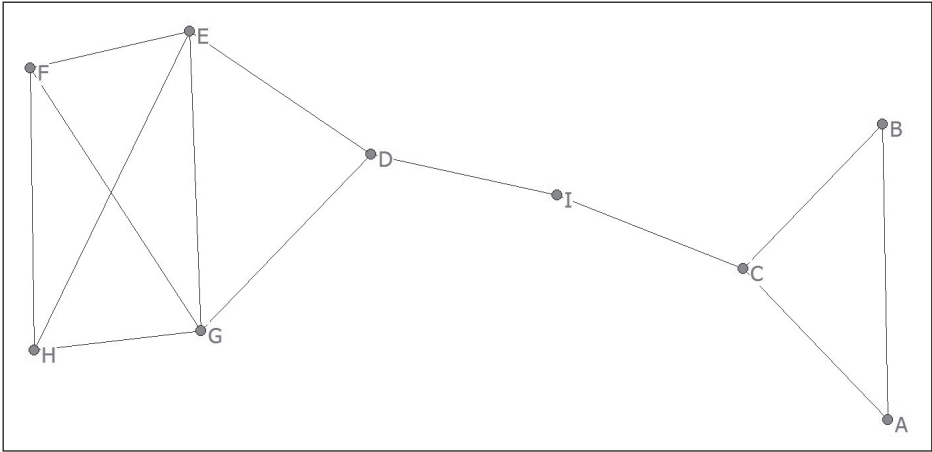
*Cliques* are formally defined as maximal complete subgraphs. This means that a clique is a group in which all nodes have ties to each other, but there is no other node that also has ties to all nodes in this group. Thus, the density within each clique equals 1, as all the ties which can be there are by definition present. The minimal number of nodes considered is usually three. One important property of cliques is that they can overlap, which means that one node can belong to multiple cliques. This way, cliques stack onto one another resulting in the overall structure of the network (Borgatti et al., 2013). The definition of cliques implies that in most usual networks, clique sizes are rather small, e.g., going up to four or five nodes. However, if we imagine a subgroup of seven actors, where everyone has ties to everyone else with the sole exception of one null dyad (a pair of actors with no tie between them), it is not a clique, but it still is considerably cohesive (density = 0.98). For this reason, alternative concepts have been proposed. One such alternative is a subgroup called *k-plex*. A *k-plex*, for a given value of *k*, is a group in which each node is connected to all other nodes except perhaps a subset of at most *k* nodes. So, in our earlier example, a group of seven actors with one null dyad is a 1-plex of size 7.

A different and more computationally complex approach to subgroups detection is represented by algorithms for detecting so-called *factions*<sup>8</sup>. The main idea is that a network can be partitioned to subgroups, which internally contain as many ties as possible (so, ideally they are cliques) while between them in contrast, there as few ties as possible. It is up to researcher to determine the number of subgroups to be found this way and frequently, it is useful to try different numbers and compare the results. There are different algorithms and their description is beyond this introductory paper, but all of them essentially rearrange the ties in the network into a predetermined number of subgroups so that the above mentioned criteria of internal density and external sparsity are fulfilled the best way possible. Afterwards, in order to check whether this partition is any good, the partition is compared (e.g., using correlation coefficient) to an ideal one with the same number of subgroups. This is important as the algorithm always produces some solution, no matter how bad it is and no matter if there actually are any subgroups or not (such as in very dense networks). Unlike cliques or *k-plexes*, *factions* are mutually exclusive, which means they do not overlap.

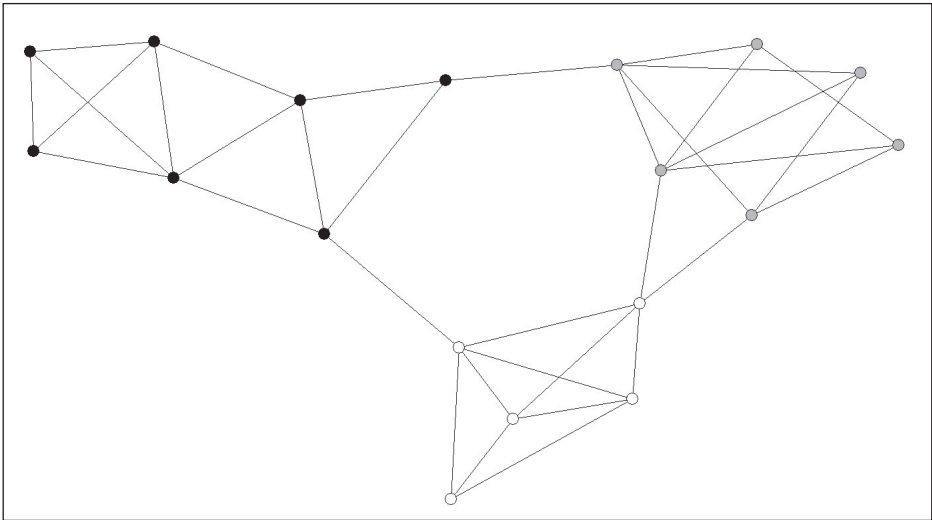
The role of subgroups has also been investigated in criminal networks. An influential idea was proposed by (Sageman, 2004) who postulated that jihadist terrorist networks (Al-Qaeda particularly) are organized into what he called a “cell-structure”. Basically, the terrorist networks are supposed to be built up from small clique-like subgroups, with only very sparse interconnections between these subgroups. This is a result of a purposeful design, where these small cells allow for carrying out complex tasks, but they also allow for remaining secure from infiltration as within these groups, everyone knows everyone else. Although this idea needs to be empirically tested, some other studies have shown this structure in other networks. An example is the study of British suffragette network, which became more cell structured with their engagement in militant activi-

---

<sup>8</sup> In statistical physics or computer science literature on networks, the term *community* is used for these methods instead.



**Figure 7:** A network with 3 cliques – one contains four nodes (E, F, G, H), two contain three nodes (A, B, C and D, E, G)



**Figure 8:** A network with 3 identified factions distinguished with different colors of nodes

ties (Crossley, Edwards, Harries, & Stevenson, 2012). In other studies using the factions approach, subgroups were found to be an important structural feature in Russian mafia outpost in Italy (Varese, 2012) or in Calabrian N'dranghetta, where they corresponded with formal organisation units called “locali” or their unions (Calderoni, Brunetto, & Piccardi, 2017). A sparse subgroup of brokers with high betweenness was identified as crucial for distribution of illegal steroids among other subgroups of professional athletes (Athey & Bouchard, 2013).

## Statistical models of networks

Methods we have introduced so far are descriptive measures for the whole structure, substructures, and individual nodes in networks. However, there is also a large set of methods which go beyond description. These network models allow for capturing irregularities in human behaviour and action, assessing the influence of randomness on network structures, testing various hypotheses on processes and mechanisms which form social networks, and for simplifying some highly complex network structures (Robins, Pattison, Kalish, & Lusher, 2007). The development of these models have been vigorous in recent years (Snijders, 2011) and researchers of criminal networks may greatly benefit from this development in order to provide more empirically based explanations of organized crime. Nevertheless, there is a huge gap between descriptive measures and models of networks, which require nontrivial knowledge of statistics and which are both conceptually and computationally more elaborated. Hence, the following section only briefly introduces the most frequently used models, their principles and criminological applications<sup>9</sup>.

An immediate question may arise – why should we not just apply standard statistical models we use regularly in social sciences (e.g., various general linear models)? There are two main reasons why standard statistical models are not sufficient to model networks. The first reason is the violation of the assumption of independence of observations. This is a basic assumption of standard statistics, but it is by definition violated with network data – after all, networks are all about interdependencies of nodes. For instance, if we remove a node from a network, its removal also changes centralities of other nodes in the network. The second reason is the requirement of random sampling. In network analysis, we do not usually work with random samples drawn from a population. Instead, we are typically dealing with case studies of a few networks or even just one. However, inference may still be useful in such cases – we are just not trying to infer about a population of networks, but rather aim for inferences about certain mechanisms or processes in our studied cases (Snijders, 2011).

The simplest way to handle these difficulties is to accommodate regular statistical tools for inference to non-independent data. Methods for computation of effects remain the same (e.g., correlation or regression), we only use different way to estimate statistical significance. This is what the *quadratic assignment procedure* (QAP) does. QAP works like permutation tests – it “reshuffles” randomly the labels of nodes in the network many times (usually from one to ten thousand times), which yields a distribution of possible outcomes (say, a correlation between the degree of nodes and their age). If there is just a small fraction of such randomly obtained results which are equal or more extreme than our empirical correlation (5% is equivalent to the p-value of 0.05), we deem the result unlikely to just be a result of chance and therefore we consider it significant<sup>10</sup>. QAP based regression models may be useful, especially in modelling valued networks (Campana,

---

<sup>9</sup> A very accessible brief overview can be found in respective chapter of Borgatti et al. (2013). More detailed overview of statistical models of social networks with technical details is provided by Snijders (2011).

<sup>10</sup> Detailed, yet very clear description of the whole procedure is given in Borgatti et al. (2013: 126–133) or in Robins (2015: 190).

2016). An example of application of QAP multiple regression is given by (Campana & Varese, 2013), who studied the impact of kinship ties and violence on cooperation among Mafiosi from Russian and Neapolitan mafia groups. They found that both these factors enforce cooperation, though the effect of violence is much stronger than the effect of kinship. Another proof of usefulness of QAP is a study by (Grund & Densley, 2012), who found that ethnically similar gang members tend to commit similar types of offences.

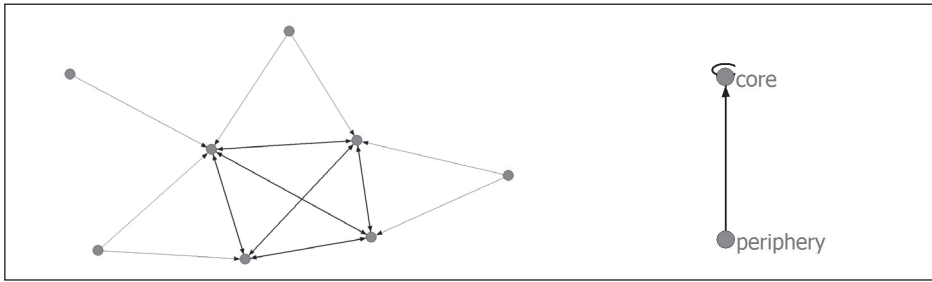
Models using the QAP deal with the network structure by accounting for it with different way of estimating statistical significance. However, the structure itself plays little role as it is not explicitly modelled. We introduce three broader sets of models, which all explicitly model the structure of the network rather than merely control for it. These sets of models are blockmodels, exponential random graph models, and stochastic actor-oriented models.

In networks, two nodes may have ties of the same strength to the same nodes. If we would swap such nodes, the structure of the network wouldn't change. We say that these two nodes are structurally equivalent (Lorrain & White, 1971)<sup>11</sup>. The principal idea behind *blockmodels* is that it is possible to reduce the network structure to mutually exclusive sets of equivalent nodes (called positions) and ties among them (called roles; Diviák, 2017; Doreian, Batagelj, & Ferligoj, 2004). Blocks are pairs of positions and ties between them – this way, we do not only model subsets of nodes (like in the subgroup detection), but also relations among them and thus the structure as well. This reduction yields a simplified picture of the network, which captures its essential features. Since exact structural equivalence is rare in empirical networks, in practice, we usually measure the extent of (dis)similarity of ties between each pair of nodes within the network and subsequently, we apply one of many blockmodelling algorithms. These algorithms are in essence akin to what is known from standard statistics as cluster analysis or classification<sup>12</sup>. They partition the network into positions, within which nodes are similar to each other and between these positions, nodes are dissimilar. Subsequently, the quality of the resulting partitioning (that is the extent of internal homogeneity and external heterogeneity of positions) is assessed with so-called measures of adequacy. The entire procedure of blockmodelling can be done in two general ways. One way is exploratory, which is much like for example in hierarchical cluster analysis, where we try numerous different partitions and algorithms trying to come up with a meaningfully interpretable solution. The other way is confirmatory, where an analogy can be made with latent class analysis, where we start with a theory about how a network should be partitioned and then we investigate, whether this theoretical blockmodel fits our empirical data or not. To give an example, one very well explored blockmodel is the core/periphery structure (Borgatti & Everett, 1999). It consists of two sets of nodes – core and periphery. Core is basically a clique – every member has ties to all others. Peripheral nodes have ties only to the nodes in the core and no ties within the periphery. In criminal networks, this model has been found to capture the structure of the inner circle of the Provisional Irish Re-

---

<sup>11</sup> There are also other, less restrictive, definitions of equivalence, such as regular or stochastic. For the sake of simplicity, we will consider only the structural variant here. More on the other definitions can be learned in a chapter by (Batagelj, Doreian, & Ferligoj, 2011).

<sup>12</sup> As a matter of fact, clustering algorithms may be used for blockmodelling as well with some adjustments (Robins, 2015).



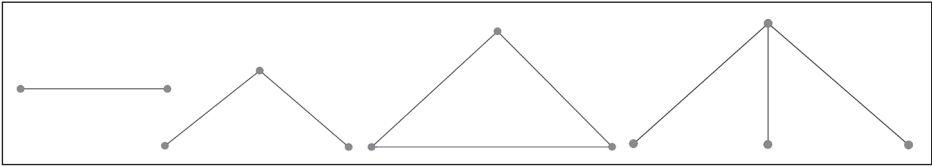
**Figure 9:** A core/periphery structured network (core is composed of the square of nodes in the middle) and its blocked image graph. Note that the image graph, unlike directly observed networks, contains a self-loop for the core, indicating that it is a cohesive subset, with many ties within the group.

publican Army, where the core consisted of experienced members and was solidified over time (Stevenson & Crossley, 2014). Another case of core/periphery structure was a Czech political corruption affair, where politicians formed a dense core and ad hoc cooperated with businesspeople to manipulate public contracts (Diviák et al., 2017).

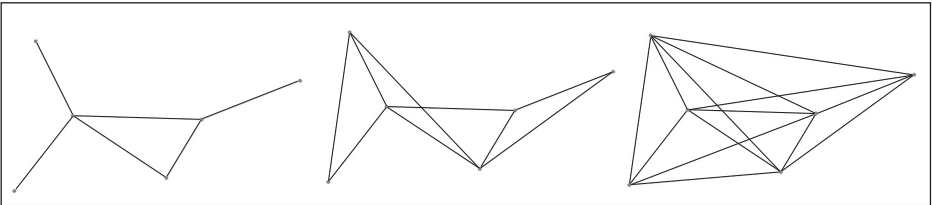
A different approach to model the network structure is represented by the *exponential random graphs models* (ERGM)<sup>13</sup>. Instead of grouping nodes on the basis of similarity in their ties, ERGMs are based on the idea that network structure is built by overlapping, intertwining, and cumulating of micro network substructures called configurations. There are numerous hypothetical configurations which can be modelled, ranging from simple ties and reciprocated ties to various forms of triadic closure (see the Figure 10 below). These configurations represent theoretical mechanisms or processes, for example, reciprocated tie represent a tendency of actors to exchange transferred resources in the network or triangle represents a tendency of actors to collaborate if they share a common third collaborator. A contrast between blockmodeling and ERGM is that the former may tend to discover large-scale features of the groups, defined by large subsets of nodes, whereas the configurations in the ERGM are of a local nature. Roughly, ERGMs work in a way similar as logistic regression (Grund & Densley, 2014) – predicting the empirical network based on the presence of ties patterned in configurations. If a resulting parameter is significant and positive, it means that the corresponding configuration is present more than just by a chance in the network and if the parameter is significantly negative, then the corresponding configuration is present less than we would expect randomly. A theoretically interesting benefit of ERGMs is the fact, that they can disentangle the network structure by separating the influence of competing mechanisms (represented by configurations) which may work simultaneously. We may for example have a drug distribution network, which is descriptively highly centralized, but when we fit an ERGM with a star parameter (representing activity of actors) and a triangle parameter (representing closure, i.e., the tendency of two distributors to collaborate if they share a common third collaborator), we may get a result with insignificant star parameter and significant triangle parameter suggesting that the observed centralization is not the effect of frequent

<sup>13</sup> A comprehensive and detailed account for ERGMs is given in a book by Lusher, Koskinen, and Robins (2013).





**Figure 10:** Some basic ERGM network configurations (from left to right) – tie, 2-path, triangle, and 3-star



**Figure 11:** A dynamic network at three time points (from left to right) t1, t2, and t3

activity of particular individuals, but rather, it is a result of working together in closed structures (e.g., in order to keep each other “in check”), which happen to frequently include particular actors resulting in centralization. ERGMs have been used to show that co-offenders in a street gang are more likely to commit illicit behaviour if they share an ethnic background and even more so, when the tendency towards closure among ethnically homogenous gang members is taken into account (Grund & Densley, 2014). Another example is a study of prohibition era Chicago organized crime scene by (Smith & Papachristos, 2016), who found strong effects of both legitimate (e.g., business) and personal (e.g., kinship) ties on criminal activity. Helfstein and Wright (2011) applied ERGMs to test two competing theories about the structure of terrorist networks and found support for neither of them – modelled networks displayed no tendencies towards heavily centralized structures as well as no tendencies towards open non-redundant structures. Instead, they all exhibited strong tendencies towards decentralization and triadic closure. No matter how powerful ERGMs are, they are so far implemented mainly for binary networks. Also, their estimation may be rather lengthy due to simulations used for estimating significance of parameters.

All the models we have introduced so far treat the network structure as static. However, networks are dynamic and change over time. A dynamic network is a network with the same set of nodes measured over multiple periods of time. This allows for tracking the change of the network over time. The question is whether such changes (typically, a creation or dissolution of a tie) are an outcome of random fluctuation or if they are driven by some process. *Stochastic actor-oriented models* (SAOM<sup>14</sup>; Snijders, van de Bunt, & Steglich, 2010) have been developed as a tool to model changes in the network over time.

<sup>14</sup> These models are sometimes referred to as SIENA (Simulation Investigation of Empirical Network Analysis) models due to the name of the software they were first implemented in.

SAOMs are built up on the same underlying principle as ERGMs – network structure is modelled from configurations representing theoretical mechanisms/processes. Changes between two successive time points are decomposed into microsteps – each actor is given an option to create or remove a tie. The probability of an actor creating or dropping a tie is then modelled in a similar way as in ERGMs. SAOMs have been for example applied to show how a drug trafficking network evolves over time towards closed triangles to facilitate trust and simultaneously towards longer distances to assure security (Bright, Malm, Koskinen, & O'Connor, 2014).

### **Challenges for criminal network analysis**

There are three challenges, which every researcher in the field of criminal network analysis as well as the field as a whole has to face (Morselli, 2014). The three challenges are data, methods, and theories. These challenges sometimes constrain the research to some extent on one hand, but on the other hand, finding solutions to these problems may help the development of this area of research and our understanding of organized crime.

The problem of data availability and validity is a severe one. In network context, this becomes especially problematic, because one Achilles' heel of the whole approach is its sensitivity to missing data. This is especially problematic for covert networks. If we miss important actors (such as brokers), the picture of the network may alter drastically and as a result, we will draw invalid conclusions from our analysis. Similarly, if we miss important ties (such as a bridge connecting two otherwise unconnected segments of the network), we may incorrectly deduce that there are two unconnected groups which have no way how to cooperate. It is therefore important to consider the validity, reliability, and quality of possible data sources. Bright and colleagues (2012) compared five different data sources – offender databases, transcripts of physical or electronic surveillance, summaries of police interrogation, transcripts of court proceedings and online or print media. With the exception of online or print media, all these sources are not usually publicly or freely accessible. But even if they are, they are not flawless – some offenders might have not yet been caught and thus they are not in the databases, criminals may limit their communication using cover language (e.g., nicknames) and not mention crucial information in their phone calls, and during interrogation or trials offenders may lie or hold up information to avoid sentencing. While the media-based sources may be freely available, extra caution needs to be taken in order assure data validity. In highly attractive cases (e.g., with the involvement of politicians or other public figures), media coverage may create a spotlight effect and concentrate their reports disproportionately on the well-known offenders. This concentration as a result may lead to a centralized network structure, but the reality may be very different and, again, incorrect conclusions may be drawn. While this spotlight effect can be assessed in modelling (as shown by Smith & Papachristos, 2016), there is no specific way how to deal with it. General advice is to process the data as carefully as possible. This can be helped by content analysis of the sources (van der Hulst, 2009), which allows for transparent coding, recoding, and comparisons of categories. Suspicious as well as solid information may become more visible and the reliability of the procedure can be checked by another independent coder.

Regarding the second challenge, the use of methods, there are two possible ways of improvement of the analytical tools at our disposal. One way is the use of statistical modelling of networks, the other is qualitative analysis as a complement to the SNA. We have briefly covered the basics of statistical modelling of networks and underlined its usefulness and potential for the field of criminal network analysis, which has been predominantly descriptive so far. Mixed methods approach, where various qualitative analysis methods accompany SNA, has also been recently discussed as a way to improve the way we study networks (Bellotti, 2014; Domínguez & Hollstein, 2014). The mixed methods approach is potentially fruitful especially when details can be obtained, from the actors themselves, from well-placed informants, or from intelligence sources on how actors themselves perceive, plan, and reflect their network positions and attributes (Hollstein, 2014). We have talked about strategic positioning from network point of view, but the question is how actors experience such situation (do they really think about reducing redundant connections or are they just trying to not “go too far”?). Furthermore, combining qualitative findings (e.g., from interviews or an ethnographic study) with quantitative results of SNA may either corroborate our results, fill in some gaps or we may even come to a contradiction. Imagine a situation where we are studying networks of mobile phone communication of a criminal group at two points of time. With SNA alone, we may come to a result that at the first time point, the structure was dense and centralized, while in following time point, it changed drastically and became sparse and decentralized. We may conclude that such a change was caused by a lot of actors deciding to terminate their criminal activity in fear of being arrested amidst of ongoing investigation. However, a qualitative analysis of interrogation records or maybe a participant observation may reveal, that it was not the case – the participants just shifted their communication from mobile phones to face-to-face. Thus, mixed methods provides better understanding of the phenomena we study as it brings more insight into the context and meaning of what is going on in the networks we describe formally (Stevenson & Crossley, 2014). The difficulty with mixed methods studies is the fact that they are very demanding in terms of time, money, and skills of researchers (Hollstein, 2014).

The last challenge for network criminology is the theory-building. There are some researchers, who deem the whole field to be rather devoid of theory or primarily driven by data rather than theory (Bright et al., 2012; Carrington, 2011; van der Hulst, 2011). A proper theory should start with the individual action as the individual level is the locus of intentionality (Coleman, 1990; Robins, 2009). While the SNA is all about structures of interactions, they are necessarily based in the individual interaction and relations with others. One relatively new approach to theorizing about social world is analytical sociology (Hedström, 2005; Hedström & Bearman, 2011). Analytical sociology seeks to explain how social structures (in our case, criminal networks) are brought about by individual action and interaction (e.g., cooperation on a criminal task). It emphasizes that social scientists should look for mechanisms in order to formulate useful explanations of social phenomena. “Mechanism approach is that we explain a social phenomenon by referring to a constellation of entities and activities, typically actors and their actions, that are linked to one another in such a way that they regularly bring about the type of phenomenon we seek to explain.” (Hedström, 2005: 2). As we can see from this definition, analytical sociology is often concerned with actors and their relations similarly to SNA.

There is a synergy which could be explored further and help network criminologists in theoretical explanations of organized crime.

## Conclusion

We have introduced basic concepts and descriptive measures of SNA together with more advanced models of networks and we have illustrated this with various criminological applications. We have also foreshadowed three big challenges for criminal network analysis. In case it motivates for reading further, there have recently been books with studies employing SNA in criminological research. Accessible showcase of a few studies and a reflection of network criminology is given by (Morselli, 2009) in his *Inside Criminal Networks*. Intermediary readers may find more examples in compilations *Crime and Networks* (Morselli, 2014a), *Illuminating Dark Networks* (Gerdes, 2015) and *Disrupting Criminal Networks* (Bichler & Malm, 2015). Cutting edge network papers with criminological background are occasionally published in the *Social Networks* journal (with a recent special issue on criminal networks) and conversely, some criminological journals occasionally publish papers which use SNA, notably *Trends in Organized Crime* (special issue in 2009) and *Global Crime* (special issue in 2013). In case readers are not only motivated to further reading, but also for conducting SNA on their own, there is specialised software, which provides the tools for both visualization and analysis of networks. *UCINET* (Borgatti, Everett, & Freeman, 2002) is relatively user friendly and is accompanied by an introductory book (Borgatti et al., 2013) and an online textbook (Hanneman & Riddle, 2005), there is also *Pajek* (Batagelj & Mrvar, 1996) with slightly different functionalities and a nice book (Mrvar, de Nooy, & Batagelj, 2005), and for those familiar with the R statistical environment, there is a package called *statnet* (Handcock, Hunter, Butts, Goodreau, & Morris, 2003) with a hands-on introduction (Luke, 2015).

Even though the study of criminal networks is in its infancy, its future seems to be promising. This field of inquiry has been steadily cumulating findings from case studies, which have already led to discoveries of some common patterns in criminal networks. This effort may be further supported by the adoption of more sophisticated methods and more profound theories, both of which are being vividly developed in related areas of social sciences. In return, network criminologists offer an uncharted territory with unique research problems which may stimulate new theoretical and methodological endeavour. Lastly, organized crime is a phenomenon with great implications for policy-making and interventions. The network approach can contribute to make these policies and interventions more evidence-based.

## REFERENCES

- Athey, N. C., & Bouchard, M. (2013). The BALCO scandal: the social structure of a steroid distribution network. *Global Crime*, 14(2/3), 216–237. <https://doi.org/10.1080/17440572.2013.790312>
- Batagelj, V., Doreian, P., & Ferligoj, A. (2011). Positions and Roles. In J. Scott & P. J. Carrington (Eds.), *The SAGE Handbook of Social Network Analysis* (pp. 434–447). SAGE.
- Batagelj, V., & Mrvar, A. (1996). *Pajek – Program for Large Network Analysis*. Retrieved from <http://vlado.fmf.uni-lj.si/pub/networks/pajek/>

- Bellotti, E. (2014). *Qualitative Networks*. London: Routledge.
- Bichler, G., & Malm, A. (2015). *Disrupting Criminal Networks*. Boulder ; London: Lynne Rienner Publishers.
- Borgatti, S. (2005). Centrality and network flow. *Social Networks*, 27(1). Retrieved from <https://works.bepress.com/steveborgatti/3/>
- Borgatti, S. P., & Everett, M. G. (1999). Models of core/periphery structures. *Social Networks*, 21(4), 375–395. [https://doi.org/10.1016/S0378-8733\(99\)00019-2](https://doi.org/10.1016/S0378-8733(99)00019-2)
- Borgatti, S. P., Everett, M. G., & Freeman, L. C. (2002). *UCINET 6 for Windows: Software for Social Network Analysis*. Harvard: Analytic Technologies.
- Borgatti, S. P., Everett, M. G., & Johnson, J. C. (2013). *Analyzing Social Networks*. SAGE publications.
- Bright, D., Hughes, C., & Chalmers, J. (2012). Illuminating dark networks: a social network analysis of an Australian drug trafficking syndicate. *Crime, Law & Social Change*, 57(2), 151–176. <https://doi.org/10.1007/s10611-011-9336-z>
- Bright, D. A., Greenhill, C., Ritter, A., & Morselli, C. (2015). Networks within networks: using multiple link types to examine network structure and identify key actors in a drug trafficking operation. *Global Crime*, 16(3), 219–237. <https://doi.org/10.1080/17440572.2015.1039164>
- Bright, David A. (2015). Disrupting and Dismantling Dark Networks. In L. M. Gerdes (Ed.), *Illuminating Dark Networks: The Study of Clandestine Groups and Organizations* (pp. 39–52). Cambridge: Cambridge University Press.
- Bright, David A., Malm, A., Koskinen, J., & O'Connor, A. (2014). Criminal network dynamics: The formation and evolution of a drug trafficking network. Presented at the Illicit Networks Workshop, Adelaide.
- Calderoni, F. (2012). The structure of drug trafficking mafias: the 'Ndrangheta and cocaine. *Crime, Law & Social Change*, 58(3), 321–349. <https://doi.org/10.1007/s10611-012-9387-9>
- Calderoni, F., Brunetto, D., & Piccardi, C. (2017). Communities in criminal networks: A case study. *Social Networks*, 48, 116–125. <https://doi.org/10.1016/j.socnet.2016.08.003>
- Campana, P., & Varese, F. (2013). Cooperation in criminal organizations: Kinship and violence as credible commitments. *Rationality and Society*, 25(3), 263–289. <https://doi.org/10.1177/1043463113481202>
- Campana, Paolo. (2016). Explaining criminal networks: Strategies and potential pitfalls. *Methodological Innovations*, 9, 2059799115622748. <https://doi.org/10.1177/2059799115622748>
- Carley, K. M., Lee, J.-S., & Krackhardt, D. (2002). Destabilizing Networks. *Connections*, 24(3), 79–92.
- Carrington, P. J. (2011). Crime and Social Network Analysis. In *The SAGE Handbook of Social Network Analysis* (Vol. 2011, pp. 236–255).
- Coleman, J. (1990). *Foundations of Social Theory*. Cambridge, MA: Belnap Press.
- Crossley, N., Edwards, G., Harries, E., & Stevenson, R. (2012). Covert social movement networks and the secrecy-efficiency trade off: The case of the UK suffragettes (1906–1914). *Social Networks*, 34(4), 634–644. <https://doi.org/10.1016/j.socnet.2012.07.004>
- Décary-Héту, D., & Dupont, B. (2012). The social network of hackers. *Global Crime*, 13(3), 160–175. <https://doi.org/10.1080/17440572.2012.702523>
- Diviák, T. (2017). Ekvivalence a blokové modelování v analýze sociálních sítí – praktický úvod. *Naše Společnost*, (forthcoming).
- Diviák, T., Dijkstra, J. K., & Snijders, T. A. B. (2017). Structure, Multiplexity, and Centrality in a Corruption Network: The Czech Rath Affair. *Trends in Organized Crime*, (under review).
- Domínguez, S., & Hollstein, B. (2014). *Mixed Methods Social Networks Research*. Cambridge: Cambridge University Press.
- Doreian, P., Batagelj, V., & Ferligoj, A. (2004). *Generalized Blockmodeling*. Cambridge ; New York: Cambridge University Press.
- Duijn, P. A. C., Kashirin, V., & Sloot, P. M. A. (2014). The Relative Ineffectiveness of Criminal Network Disruption. *Scientific Reports*, 4. <https://doi.org/10.1038/srep04238>
- Everton, S. F. (2012). *Disrupting Dark Networks*. Cambridge: Cambridge University Press.
- Fortunato, S. (2010). Community detection in graphs. *Physics Reports*, 486(3–5), 75–174. <https://doi.org/10.1016/j.physrep.2009.11.002>
- Freeman, L. C. (1978). Centrality in social networks conceptual clarification. *Social Networks*, 1(3), 215–239. [https://doi.org/10.1016/0378-8733\(78\)90021-7](https://doi.org/10.1016/0378-8733(78)90021-7)

- Gerdes, L. M. (2015). *Illuminating Dark Networks: The Study of Clandestine Groups and Organizations*. Cambridge: Cambridge University Press.
- Grund, T. U., & Densley, J. A. (2012). Ethnic heterogeneity in the activity and structure of a Black street gang. *European Journal of Criminology*, 9(4), 388–406. <https://doi.org/10.1177/1477370812447738>
- Grund, T. U., & Densley, J. A. (2014). Ethnic Homophily and Triad Closure: Mapping Internal Gang Structure Using Exponential Random Graph Models. *Journal of Contemporary Criminal Justice*, 1043986214553377. <https://doi.org/10.1177/1043986214553377>
- Handcock, M. S., Hunter, D. R., Butts, C. T., Goodreau, S. M., & Morris, M. (2003). *statnet: Software tools for the Statistical Modeling of Network Data*. Retrieved from <http://statnetproject.org>
- Hanneman, R., & Riddle, M. (2005). Introduction to Social Network Methods. Retrieved April 3, 2016, from <http://faculty.ucr.edu/~hanneman/nettext/>
- Hedström, P. (2005). *Dissecting the Social: On the Principles of Analytical Sociology* (1st edition). Cambridge: Cambridge University Press.
- Hedström, P., & Bearman, P. (Eds.). (2011). *The Oxford Handbook of Analytical Sociology* (1 edition). Oxford; New York: Oxford University Press.
- Helfstein, S., & Wright, D. (2011). Covert or Convenient? Evolution of Terror Attack Networks. *Journal of Conflict Resolution*. <https://doi.org/10.1177/0022002710393919>
- Hofmann, D. C., & Gallupe, O. (2015). Leadership protection in drug-trafficking networks. *Global Crime*, 16(2), 123–138. <https://doi.org/10.1080/17440572.2015.1008627>
- Hollstein, B. (2014). Mixed Methods for Social Networks Research: An Introduction. In S. Domínguez & B. Hollstein (Eds.), *Mixed Methods Social Networks Research* (pp. 3–35). Cambridge: Cambridge University Press.
- Krebs, V. (2002). Unclanking Terrorist Networks. *First Monday*, 7(4). Retrieved from <http://firstmonday.org/ojs/index.php/fm/article/view/941>
- Le, V. (2012). Organised Crime Typologies: Structure, Activities and Conditions. *International Journal of Criminology and Sociology*, 1(0), 121–131.
- Lorrain, F., & White, H. C. (1971). Structural equivalence of individuals in social networks. *The Journal of Mathematical Sociology*, 1(1), 49–80. <https://doi.org/10.1080/0022250X.1971.9989788>
- Luke, D. A. (2015). *A User's Guide to Network Analysis in R*. New York: Springer International Publishing.
- Lusher, D., Koskinen, J., & Robins, G. (Eds.). (2013). *Exponential random graph models for social networks: theory, methods, and applications*. Cambridge: Cambridge University Press.
- McGloin, J. M., & Kirk, D. S. (2010). An Overview of Social Network Analysis. *Journal of Criminal Justice Education*. <https://doi.org/10.1080/10511251003693694>
- McIlwain, J. S. (1999). Organized crime: A social network approach. *Crime, Law & Social Change*, 32, 301–323.
- Milward, H. B., & Raab, J. (2006). Dark Networks as Organizational Problems: Elements of a Theory. *International Public Management Journal*, 9(3), 333–360. <https://doi.org/10.1080/10967490600899747>
- Moreno, J. L. (1934). *Who Shall Survive?* Washington, D.C.: Nervous and Mental Disease Publishing Company.
- Morselli, C. (2010). Assessing Vulnerable and Strategic Positions in a Criminal Network. *Journal of Contemporary Criminal Justice*, 26(4), 382–392. <https://doi.org/10.1177/1043986210377105>
- Morselli, C. (2009). *Inside Criminal Networks* (Vol. 8). New York, NY: Springer New York.
- Morselli, C. (2014a). *Crime and Networks*. New York: Routledge.
- Morselli, C. (2014b). Introduction. In *Crime and Networks* (pp. 1–9). Routledge.
- Morselli, C., Giguère, C., & Petit, K. (2007). The efficiency/security trade-off in criminal networks. *Social Networks*, 29(1), 143–153. <https://doi.org/10.1016/j.socnet.2006.05.001>
- Morselli, C., & Roy, J. (2008). BROKERAGE QUALIFICATIONS IN RINGING OPERATIONS\*. *Criminology*, 46(1), 71–98. <https://doi.org/10.1111/j.1745-9125.2008.00103.x>
- Mrvar, A., de Nooy, W., & Batagelj, V. (2005). *Exploratory Social Network Analysis with Pajek*. Cambridge: Cambridge University Press.
- Newman, M. (2010). *Networks: An Introduction* (1 edition). Oxford ; New York: Oxford University Press.
- Newman, M. E. J., & Park, J. (2003). Why social networks are different from other types of networks. *Physical Review E*, 68(3). <https://doi.org/10.1103/PhysRevE.68.036122>



- Oliver, K., Crossley, N., Everett, M. G., Edwards, G., & Koskinen, J. (2014). Covert networks: structures, processes and types. The Mitchell Center for Social Network Analysis working paper. Retrieved from [http://www.socialsciences.manchester.ac.uk/medialibrary/research/mitchell/covertnetworks/wp/working\\_paper1.pdf](http://www.socialsciences.manchester.ac.uk/medialibrary/research/mitchell/covertnetworks/wp/working_paper1.pdf)
- Papachristos, A. V. (2014). The Network Structure of Crime.
- Robins, G. (2009). Understanding individual behaviors within covert networks: the interplay of individual qualities, psychological predispositions, and network effects. *Trends in Organized Crime*, 12(2), 166–187. <https://doi.org/10.1007/s12117-008-9059-4>
- Robins, G. (2015). *Doing Social Network Research*. London: SAGE publications.
- Robins, G., Pattison, P., Kalish, Y., & Lusher, D. (2007). An introduction to exponential random graph ( $p^*$ ) models for social networks. *Social Networks*, 29(2), 173–191. <https://doi.org/10.1016/j.socnet.2006.08.002>
- Sageman, M. (2004). *Understanding Terror Networks* (1st Edition edition). Philadelphia: University of Pennsylvania Press.
- Smith, C. M., & Papachristos, A. V. (2016). Trust Thy Crooked Neighbor Multiplexity in Chicago Organized Crime Networks. *American Sociological Review*, 0003122416650149. <https://doi.org/10.1177/0003122416650149>
- Snijders, T. A. B. (2011, July 8). Statistical Models for Social Networks [review-article]. Retrieved December 10, 2016, from <http://www.annualreviews.org/doi/abs/10.1146/annurev.soc.012809.102709>
- Snijders, T. A. B., van de Bunt, G. G., & Steglich, C. E. G. (2010). Introduction to stochastic actor-based models for network dynamics. *Social Networks*, 32(1), 44–60. <https://doi.org/10.1016/j.socnet.2009.02.004>
- Sparrow, M. K. (1991). The application of network analysis to criminal intelligence: An assessment of the prospects. *Social Networks*, 13(3), 251–274. [https://doi.org/10.1016/0378-8733\(91\)90008-H](https://doi.org/10.1016/0378-8733(91)90008-H)
- Stevenson, R., & Crossley, N. (2014). Change in Covert Social Movement Networks: The “Inner Circle” of the Provisional Irish Republican Army. *Social Movement Studies*, 13(1), 70–91. <https://doi.org/10.1080/14742837.2013.832622>
- van der Hulst, R. C. (2009). Introduction to Social Network Analysis (SNA) as an investigative tool. *Trends in Organized Crime*, 12(2), 101–121. <https://doi.org/10.1007/s12117-008-9057-6>
- van der Hulst, Renée C. (2011). Terrorist Networks: The Threat of Connectivity. In *The SAGE Handbook of Social Network Analysis* (pp. 256–270).
- Varese, F. (2012). The Structure and the Content of Criminal Connections: The Russian Mafia in Italy. *European Sociological Review*, jcs067. <https://doi.org/10.1093/esr/jcs067>
- von Lampe, K. (2009). Human capital and social capital in criminal networks: introduction to the special issue on the 7th Blankensee Colloquium. *Trends in Organized Crime*, 12(2), 93–100. <https://doi.org/10.1007/s12117-009-9067-z>
- Wasserman, S., & Faust, K. (1994). *Social Network Analysis: Methods and Applications* (1 edition). Cambridge ; New York: Cambridge University Press.
- Wood, G. (2017). The structure and vulnerability of a drug trafficking collaboration network. *Social Networks*, 48, 1–9. <https://doi.org/10.1016/j.socnet.2016.07.001>
- Xu, J., & Chen, H. (2008). The topology of dark networks. *Communications of the ACM*, 51(10), 58. <https://doi.org/10.1145/1400181.1400198>

ACTA UNIVERSITATIS CAROLINAE  
PHILOSOPHICA ET HISTORICA 2/2018  
STUDIA SOCIOLOGICA

## STUDIES ON CRIMINOLOGY 2

---

Editors: Jiří Buriánek, Zuzana Podaná

Cover and layout Kateřina Řezáčová

Published by Charles University

Karolinum Press, Ovocný trh 560/5, 116 36 Prague 1, Czech Republic

[www.karolinum.cz](http://www.karolinum.cz)

Prague 2018

Typeset by DTP Karolinum Press

Printed by Karolinum Press

ISSN 0567-8293 (Print)

ISSN 2464-7055 (Online)

MK ČR E 18598

Distributed by Faculty of Arts, Charles University,

2 Jan Palach sq. 116 38 Prague 1,

Czech Republic ([books@ff.cuni.cz](mailto:books@ff.cuni.cz))