

Appendix B Description of survey data

We conducted a survey to explore juveniles' experience with and knowledge of the criminal justice system in Denmark. We invited all 10,866 6th–9th grade pupils in public schools in the city of Aarhus to participate. We promised DKK 1000 to the first 50 classes to fill out the survey; the money was supposed to pay for a social activity for the entire class. The survey information was collected during the period November 29–December 20, 2017, and 665 pupils (657 completed the entire questionnaire) from 39 classes responded; that is 6.1% of the invited students. Survey respondents are not representative for the population of 6th–9th grade pupils. For instance, there are more immigrants in the surveyed classes (17% vs. 13% in population), older mothers (average age 45 vs. 44 years in population) and more college-educated mothers (62% vs. 45% in population), whereas unemployment rates are not significantly different (3.2% vs. 3.5% in population).

The following questions from the survey addressed the respondents' knowledge of police behavior and the Danish legal system:

1. What is the age threshold for conviction for theft?
(please choose "Don't know" rather than guessing)
Write one number: _____
2. Have you ever heard about "the minimum age of criminal responsibility?"
Choose one option
☐ No, I have never heard about it
☐ Yes, I have heard about it, but I don't know what it means
☐ Yes, I have heard about it, and I know what it means
3. What do you think the police will do if they catch someone *below* the minimum age of criminal responsibility shoplifting?
Choose one option
☐ Police contact the parents
☐ Police contact the parents and the social authorities (correct answer)
☐ Police contact the parents and the social authorities and they are taken to court
☐ Don't know
4. What do you think the police will do if they catch someone *above* the minimum age of criminal responsibility shoplifting?
Choose one option
☐ Police contact the parents
☐ Police contact the parents and the social authorities
☐ Police contact the parents and the social authorities and they are taken to court (correct answer)
☐ Don't know
5. What do you think is the probability of being caught shoplifting (e.g. by a guard or employee)?
Choose a number between 0 and 100, 0 indicating that you'll never be caught and 100 meaning that you'll always be caught: _____
6. What do you think happens if someone above the minimum age of criminal responsibility is caught shoplifting for the first time?
☐ They are not punished
☐ They receive a warning
☐ They receive a fine (correct answer)
☐ They receive a suspended prison sentence, i.e. they go to prison if they commit new crime within 2 years
☐ They receive an unsuspended prison sentence, i.e. they go to prison or wear an electronic tag
☐ Don't know

7. Are you generally a person who is fully prepared to take risks, or do you try to avoid taking risks? (0 = avoid taking risks, 10 = very willing to take risks)
8. Are you generally a person who shows great patience, or are you an impatient person? (0 = very patient, 10 = very impatient)
9. Are you generally a person who is not at all impulsive, or are you very impulsive? (0 = not at all impulsive, 10 = very impulsive)
10. Have you ever [type of crime]?
 - ___ yes, I have done that
 - ___ no, I have never done that
 - ___ don't know/don't want to answer

Questions 7–9 measure personal traits: willingness to take risks, patience and impulsiveness based on the ultra-short survey measures suggested by Vischer et al. (2013) and Dohmen et al. (2011).

Question 10 about self-reported crime is based on the International Self Report Delinquency (ISRD) survey and includes 12 crime types: graffiti, vandalism, stealing from a store, breaking into a building to steal something, stealing a bicycle, stealing a car or motorbike, stealing something off or from a car, stealing something from a person using force or threats, stealing something from a person without force or threats, inflicting harm on anybody on purpose, purchasing/selling drugs (e.g. cannabis or ecstasy), downloading music or film from the internet illegally.

Table B1 summarizes individual characteristics of survey respondents overall and by subgroup. The indicator for criminal experience takes the value 1 if the respondent reports having committed (alone or in a group) at least two types of crimes from our list of 12 types of crimes. The table shows that 31% have criminal experience and that boys, 8th–9th graders and individuals with non-Danish names are more likely to have criminal experience. Most individual characteristics are similar across subgroups, but boys are more willing to take risks and expect a lower probability of apprehension. However unsurprisingly, individuals who have committed at least two types of crimes are more willing to take risks, less patient and more impulsive than others are.

To further describe the group of juveniles at high risk of offending, Table B2 presents the results of multiple regressions of the indicator for having criminal experience on individual characteristics. The results confirm that boys, 8th–9th graders and individuals with non-Danish names are more likely to have criminal experience. It also shows that individuals with a high willingness to take risks, high impatience or medium-to-high impulsiveness are significantly more likely to have criminal experience. The coefficients are substantial (around 10 percentage points) compared to a mean of 0.305. By contrast, individual-perceived risk of apprehension is uncorrelated with individual criminal experience.

Table B3 present results of regressions of indicator variables for being correctly informed about the criminal justice system (as measured by the answers to question 1, 3 and 4) on individual characteristics. We find a strong age/grade gradient in knowledge, as 8th–9th graders are significantly better informed. Furthermore, it is striking that the other subgroups who are more likely to be at the margin of committing crime (see Tables B1 and B2) are as well informed as other young people. One exception is pupils with a non-Danish name, who are 9 percentage points less likely to know the official reactions to criminal offenses committed by individuals above the age of criminal responsibility (compared to the mean of 79%). It is also noticeable that, if anything, pupils who are very willing to take risks and those who are impatient or impulsive are better informed than others.

	All	Males	Females	Grades 6-7	Grades 8-9	Danish name	Non-Danish name	Two or more types of crime	Zero or one type of crime
<i>Experience with 12 types of crime</i>									
At least 2/12 types of crime committed	0.305	0.424	0.182	0.237	0.357	0.285	0.407	1	0
Less than 2/12 types of crime committed	0.695	0.576	0.818	0.763	0.643	0.715	0.593	0	1
Unwilling to answer at least 1/12	0.152	0.156	0.147	0.199	0.116	0.153	0.148	-	0.219
<i>Willingness to take risk</i>									
Low	0.370	0.312	0.431	0.390	0.355	0.365	0.398	0.276	0.411
Medium	0.400	0.406	0.394	0.380	0.415	0.409	0.352	0.399	0.400
High	0.137	0.194	0.077	0.108	0.159	0.136	0.139	0.212	0.104
Don't know/missing	0.093	0.088	0.098	0.122	0.071	0.090	0.111	0.113	0.084
<i>Patience</i>									
High	0.296	0.315	0.277	0.282	0.307	0.298	0.287	0.251	0.316
Medium	0.394	0.365	0.425	0.422	0.373	0.395	0.389	0.345	0.416
Low	0.260	0.262	0.258	0.233	0.280	0.264	0.241	0.335	0.227
Don't know/missing	0.049	0.058	0.040	0.063	0.040	0.040	0.083	0.069	0.041
<i>Impulsiveness</i>									
Low	0.302	0.297	0.308	0.335	0.278	0.311	0.259	0.222	0.338
Medium	0.328	0.309	0.348	0.282	0.362	0.319	0.371	0.350	0.318
High	0.182	0.194	0.169	0.150	0.206	0.183	0.176	0.212	0.169
Don't know/missing	0.188	0.200	0.175	0.233	0.154	0.187	0.194	0.217	0.175
<i>Probability of apprehension</i>									
Never	0.201	0.282	0.117	0.192	0.209	0.208	0.167	0.256	0.177
Medium risk	0.400	0.362	0.440	0.40	0.399	0.384	0.481	0.374	0.411
Always	0.339	0.297	0.382	0.331	0.344	0.350	0.278	0.300	0.355
Don't know/missing	0.060	0.059	0.061	0.077	0.048	0.058	0.074	0.069	0.056
<i>Age threshold for conviction of theft</i>									
Age 15 (reported in open question)	0.573	0.597	0.548	0.397	0.706	0.562	0.630	0.636	0.546
<i>System response if caught shoplifting</i>									
<u>Below Minimum Age of Criminal Respons.:</u>									
Police informs parents and social authorities	0.651	0.643	0.659	0.591	0.697	0.647	0.673	0.690	0.634
<u>Above Minimum Age of Criminal Respons.:</u>									
Police informs parents, social authorities and criminal justice system	0.789	0.792	0.786	0.675	0.877	0.804	0.710	0.782	0.792
<i>Sanctions for shoplifting above MACR</i>									
A fine (correct)	0.373	0.336	0.411	0.351	0.390	0.380	0.333	0.359	0.379
Suspended sentence or prison sentence	0.310	0.334	0.287	0.284	0.330	0.314	0.296	0.338	0.298
Observations	665	340	325	287	378	557	108	203	462

Table B1 Means of individual characteristics of survey respondents

Source: Survey collected by authors among 6th–9th graders in Aarhus, Nov.–Dec. 2017.

Notes: Table summarizes respondents' answers to key questions meant to reveal their knowledge about the criminal justice system. Abbreviation: Minimum Age of Criminal Responsibility (MACR).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Male	0.243*** (0.0336)	0.223*** (0.0340)	0.245*** (0.0334)	0.243*** (0.0335)	0.234*** (0.0344)	0.229*** (0.0341)	0.219*** (0.0348)
Non-Danish name	0.104** (0.0461)	0.105** (0.0459)	0.106** (0.0459)	0.0983** (0.0461)	0.105** (0.0463)	0.103** (0.0460)	0.104** (0.0461)
<i>Grade (ref = grade 8)</i>							
Grade 6	-0.137*** (0.0508)	-0.125** (0.0508)	-0.119** (0.0510)	-0.132*** (0.0511)	-0.129** (0.0512)	-0.112** (0.0512)	-0.106** (0.0514)
Grade 7	-0.104** (0.0420)	-0.0987** (0.0420)	-0.106** (0.0420)	-0.102** (0.0420)	-0.105** (0.0421)	-0.100** (0.0420)	-0.102** (0.0420)
Grade 9	-0.00515 (0.0480)	-0.00690 (0.0478)	-0.0107 (0.0478)	-0.0145 (0.0482)	-0.00748 (0.0481)	-0.0184 (0.0481)	-0.0207 (0.0482)
<i>Willingness to take risk (ref = low)</i>							
Medium		0.0546 (0.0384)				0.0308 (0.0397)	0.0310 (0.0397)
High		0.170*** (0.0539)				0.126** (0.0563)	0.127** (0.0564)
<i>Patience (ref = medium)</i>							
High			-0.0309 (0.0408)			-0.00871 (0.0416)	-0.00892 (0.0417)
Low			0.112*** (0.0422)			0.103** (0.0428)	0.101** (0.0428)
<i>Impulsiveness (ref= medium)</i>							
Low				-0.0917** (0.0427)		-0.0766* (0.0438)	-0.0783* (0.0441)
High				0.00322 (0.0492)		-0.0267 (0.0497)	-0.0298 (0.0500)
<i>Prob. of apprehension</i>							
Never					0.0486 (0.0469)		0.0484 (0.0469)
Always					-0.00958 (0.0393)		-0.0130 (0.0392)
Constant	0.205*** (0.0339)	0.161*** (0.0395)	0.184*** (0.0394)	0.236*** (0.0417)	0.205*** (0.0393)	0.183*** (0.0519)	0.185*** (0.0561)
Observations	665	665	665	665	665	665	665
R-squared	0.127	0.140	0.142	0.135	0.130	0.156	0.159

Table B2 Regression of criminal experience on individual characteristics

Source: Survey collected by authors among 6th–9th graders in Aarhus, Nov–Dec 2017.

Notes: Dependent variable: Indicator for criminal experience = 1 if respondent admits to having committed two or more (out of twelve) types of criminal offenses, 0 else. Table reports coefficient estimates from OLS regressions. Indicator variables for don't know or missing responses to questions about risk, patience, impulsiveness and apprehension are included. Mean of dependent variable: 0.305.

Dependent variable (0/1):	Q: What is the age threshold for conviction of theft?	Q: What do you think the police will do if someone is caught shoplifting (first time) ... <i>below</i> ... <i>above</i> the minimum age of criminal responsibility?	
	A: 15 years	A: Police inform parents and social authorities	A: Police inform parents, social authorities and criminal justice system
<i>Male</i>	0.0414 (0.0386)	-0.0281 (0.0400)	0.0312 (0.0324)
<i>Non-Danish name</i>	0.0489 (0.0496)	0.0331 (0.0516)	-0.0904** (0.0417)
<i>Grades(ref = grade 8)</i>			
Grade 6	-0.298*** (0.0553)	-0.0815 (0.0572)	-0.238*** (0.0464)
Grade 7	-0.291*** (0.0453)	-0.0677 (0.0470)	-0.145*** (0.0380)
Grade 9	-0.0268 (0.0517)	0.0216 (0.0537)	0.000602 (0.0435)
<i>Prior criminal experience</i>			
Criminal experience	0.0617 (0.0440)	0.0301 (0.0454)	-0.0501 (0.0368)
Don't want to answer/missing	0.0122 (0.0533)	-0.000163 (0.0550)	-0.0241 (0.0446)
<i>Willingness to take risk (ref = medium)</i>			
Low	0.0311 (0.0427)	0.0149 (0.0441)	0.0333 (0.0357)
High	0.111* (0.0577)	0.0564 (0.0596)	0.0603 (0.0483)
<i>Patience (ref = medium)</i>			
High	0.0527 (0.0448)	0.0696 (0.0462)	-0.00998 (0.0374)
Low	-0.0300 (0.0462)	0.110** (0.0477)	0.0358 (0.0386)
<i>Impulsive (ref = medium)</i>			
Low	-0.0483 (0.0473)	-0.0121 (0.0488)	-0.0433 (0.0395)
High	0.101* (0.0535)	0.0433 (0.0554)	-0.0564 (0.0448)
<i>Prob. of apprehension (ref = medium)</i>			
Never	-0.0839* (0.0504)	0.0212 (0.0521)	-0.0131 (0.0422)
Always	0.0758* (0.0419)	0.0533 (0.0433)	0.0378 (0.0351)
<i>Constant</i>	0.632*** (0.0567)	0.599*** (0.0586)	0.918*** (0.0475)
Observations	665	659	659
Mean of dependent variable	0.573	0.651	0.789
R-squared	0.167	0.044	0.145

Table B3 Regression of knowledge of criminal justice system on individual characteristics

Source: Survey collected by authors among 6th–9th graders in Aarhus, Nov.–Dec. 2017.

Notes: Indicator for prior criminal experience = 1 if respondent admits to having committed two or more (out of twelve) types of criminal offenses, 0 else. Table reports coefficient estimates from OLS regressions. Indicator variables for don't know or missing response to questions about risk, patience, impulsiveness and apprehension are included.