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Jacobs Center for Productive Youth Development

An Introduction to **The Zurich Project on Social Development from Childhood to Adulthood (z-proso)**

Dr. Denis Ribeaud

Jacobs Center for Productive Youth Development, University of Zurich





Overview

GOALS

- To introduce the z-proso study
- To inspire you to make use of this unique data

OUTLINE

- How z-proso started
- Study specifications, design, and sampling
- Study population: Who participates in the study?
- z-proso surveys: settings, procedures & participation rates
- Survey instruments & scales
- Add-on data collections & collaborative studies
- z-proso scientific network & publication output



How it all started: The story behind z-proso

City of Zurich's School Department concerned about increasing rates of youth violence, commissions a risk and resources report

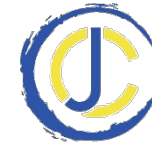
Key recommendations of the report (Eisner et al. 2003)

- Better integration of the loose network of extant prevention/intervention resources
- Two universal *early prevention* programs
 - Triple P aimed at improving parenting practices (P1)
 - PATHS aimed at improving socio-emotional skills in children (P2)
- Evaluation of the program implementation & effectiveness based on an RCT design

→ *z-proso is a perfect example of science-policy partnership, initiated by decision makers*



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Study Specifications, Design, & Sampling



Initial Research Goals & Basic Specifications

Program Evaluation

- *Process evaluation*: How well have the preventions program been implemented?
- *Outcome evaluation*: To what extent have the implemented programs proved to be effective?

Developmental Study

- Development of problem behavior in the life course
- Risk factors of externalizing problem behavior
- Focus on the ethnically highly diverse parent population of the city of Zurich
- → Inclusion of all relevant minorities

Basic Specifications

- Factorial design with 2*2 experimental conditions (P1, P2, P1+P2, control) and randomized allocation
- Panel study, starting with 3 measurement points
- Initial net sample size N>1000 to ensure detection of small effect sizes
- Program implementation at the level of schools rather than classes, to prevent contagion effects



Sampling Procedure

Sampling frame

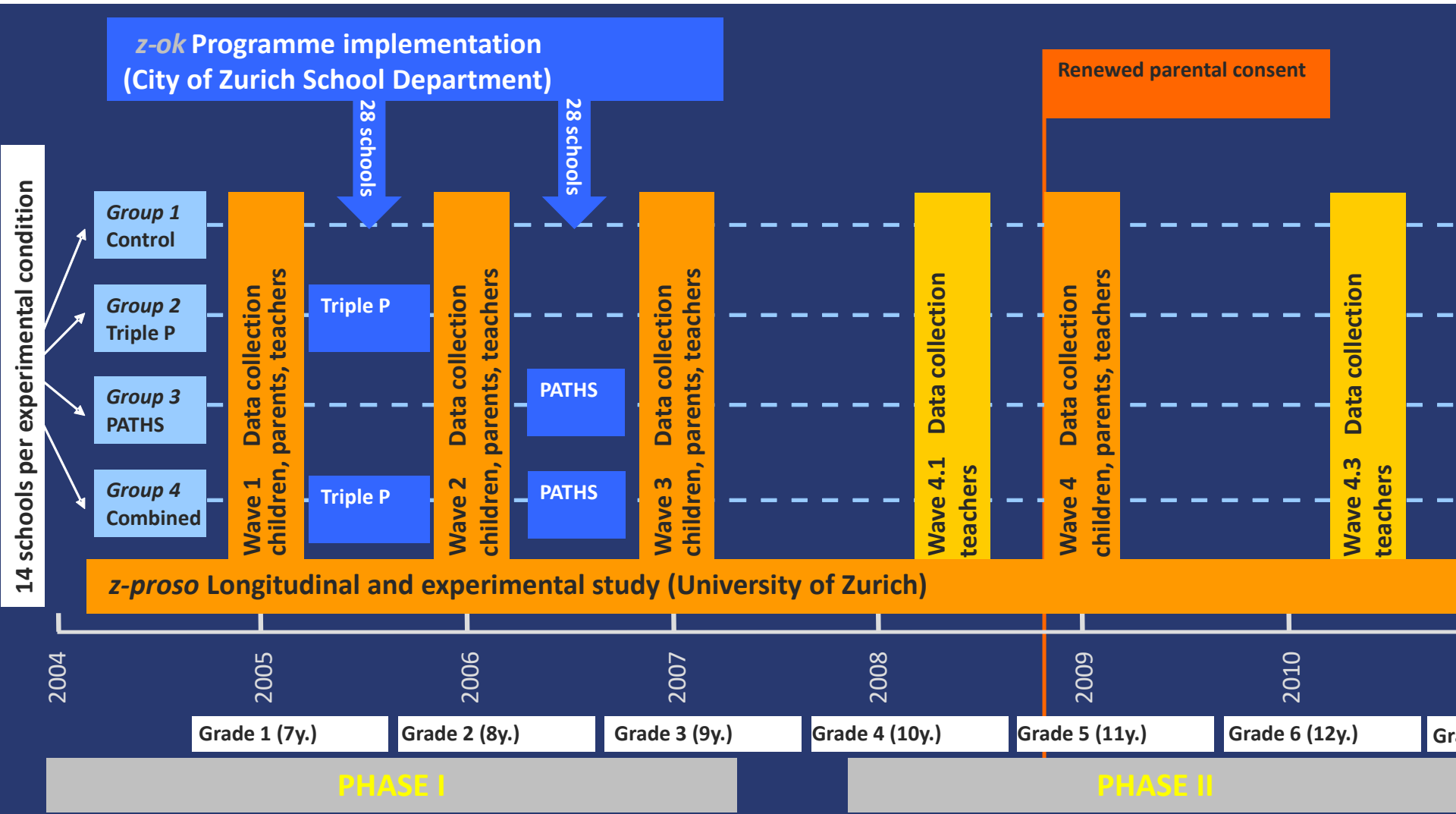
- 1st graders in public schools of the city of Zurich in 2004 (~2,500 children in 89 schools)

Procedure

- Random selection of 14 quadruplets of schools, stratified by size and location
- Random assignment to each of the 4 experimental conditions within each quadruplet
→ **Cluster-RCT with schools as randomization units**
- *Initial target sample: 1,675 1st graders in 56 schools (66.6%)*

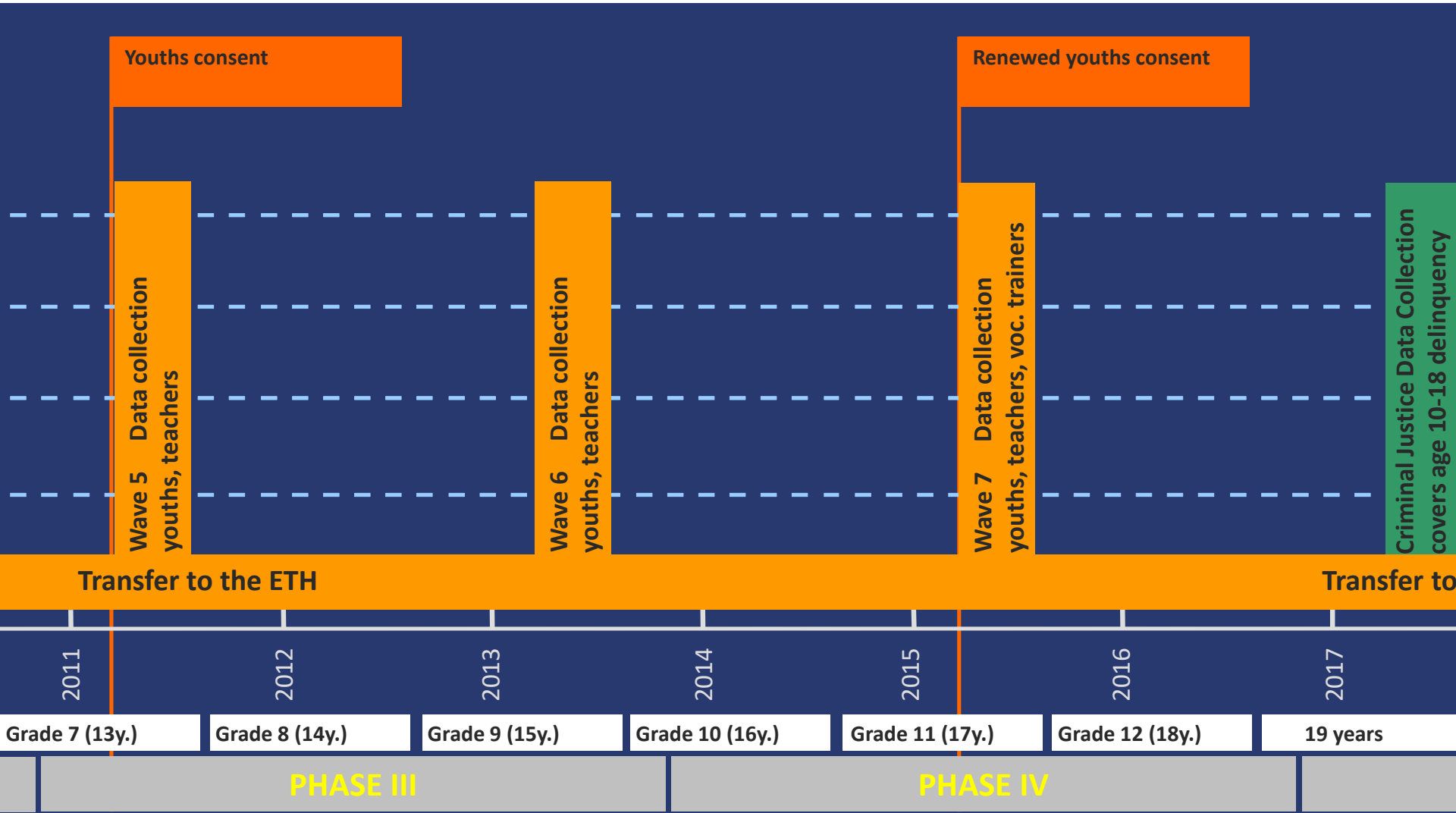


Project Timeline, Phases I & II, W1-W4



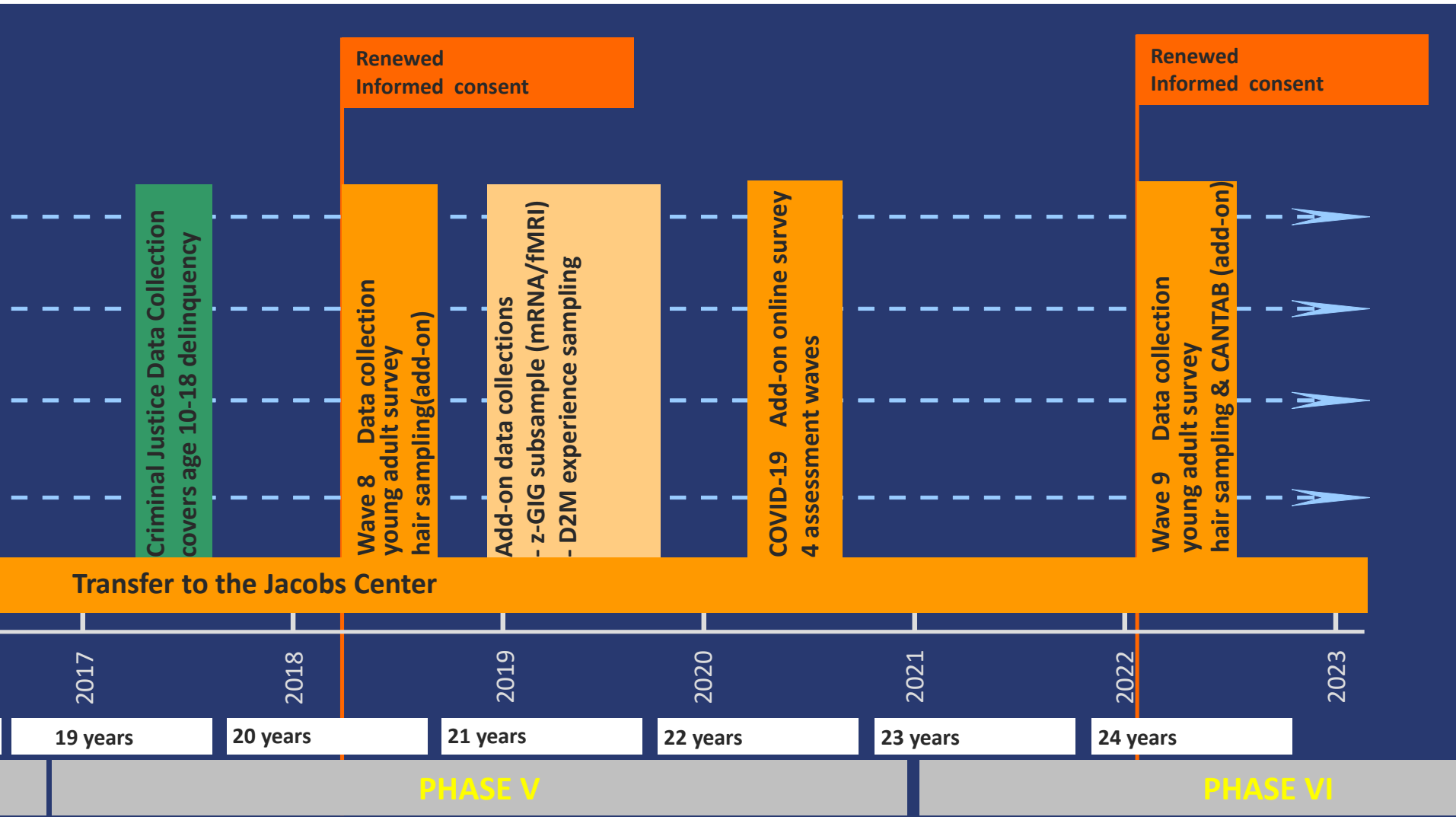


Project Timeline, Phases III & IV, W5-W7





Project Timeline, Phases V & VI, W8-W9





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Study Population



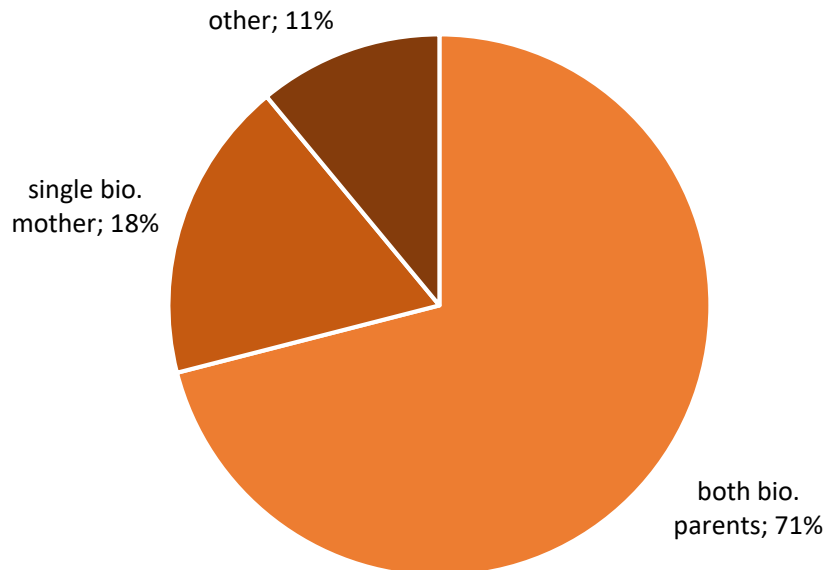
Sample Structure: Basic Demographics

Gender ratio: 49% girls, 51% boys

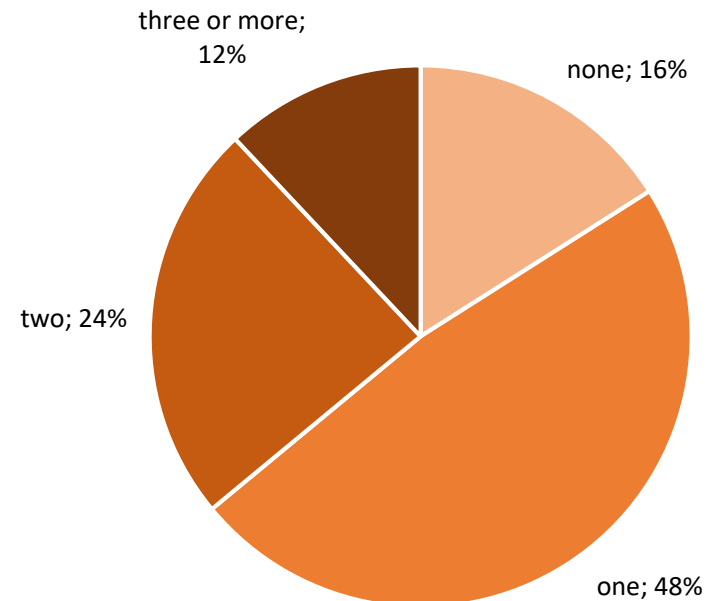
Median birth year: Participants: 1997; Mothers: 1968; Fathers: 1965

Household composition:

caregivers in household (age 13)



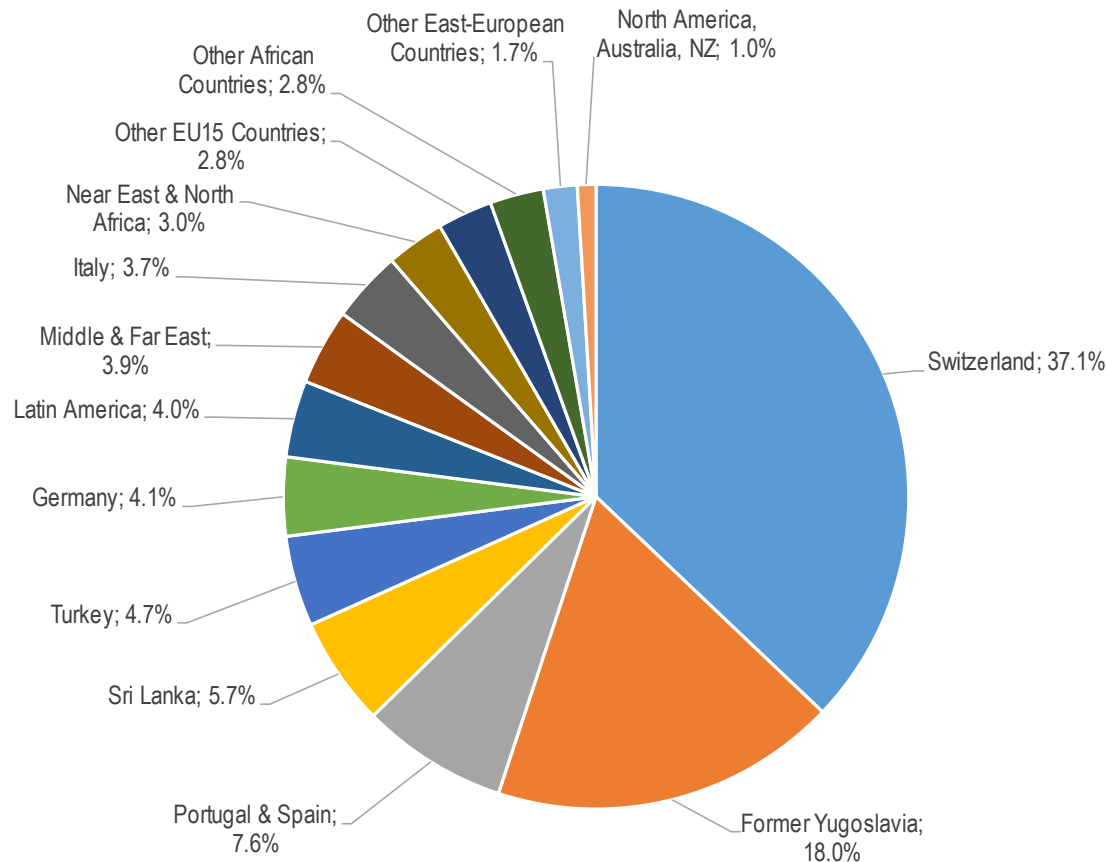
siblings in household (age 13)





Sample Structure by Parents' Birth Country

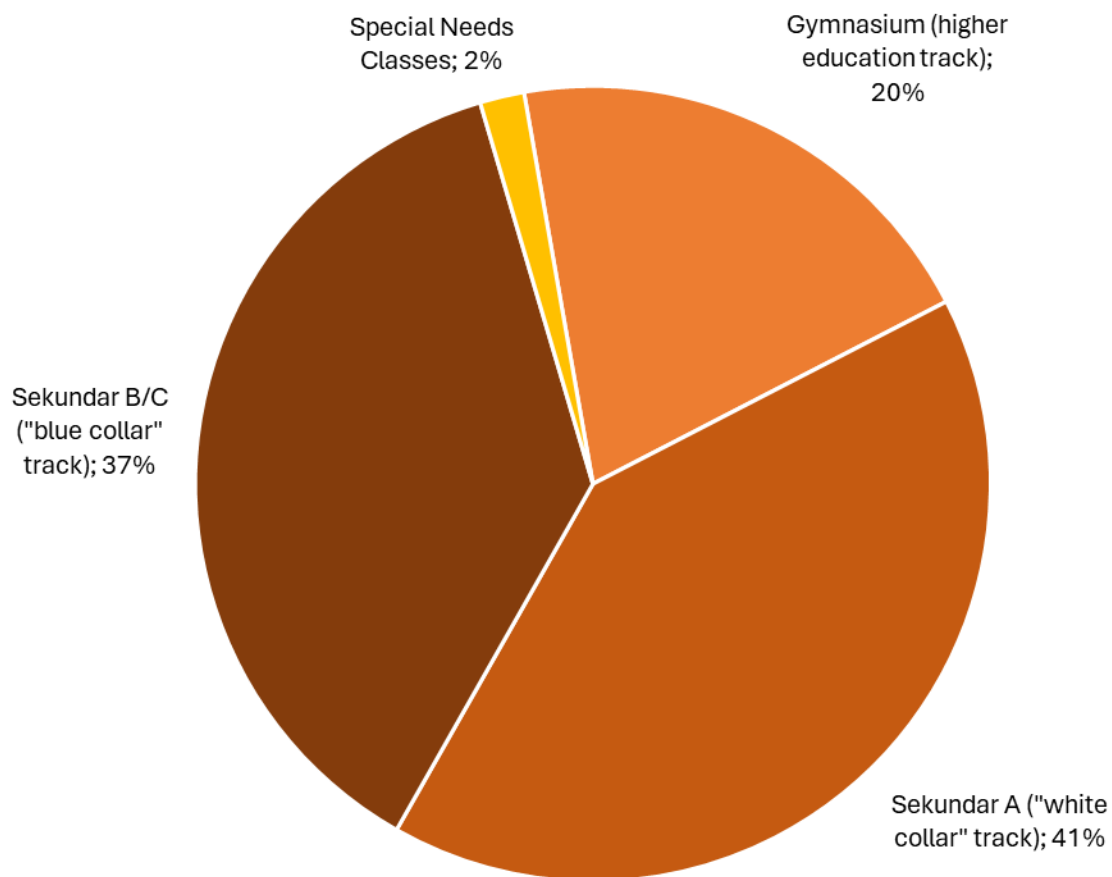
A multiethnic sample: > 60% of the parents born outside Switzerland ...



... *but*: 90% of the participants born in Switzerland

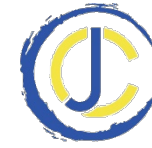


Sample Structure by School Type (Age 15)





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z-proso Surveys: Settings & Procedures



z-proso Main Surveys

Caregiver Surveys

- 4 waves of primary caregiver (mother) CAPI home interviews in 9 languages (age 7-11)
 - Contact letters, telephone recruitment, and interviews in German, Albanian, “Serbo-Croatian”, Italian, Portuguese, Spanish, Tamil, Turkish, English

Young Person Surveys (“Target Child”)

- 3 waves of playful child CAPI interviews in schools (age 7-9)
- 4 waves of paper-and-pencil surveys with youths in school premises (age 11-17)
 - Age 11: during regular lessons
 - Age 13-17: during leisure time → financially compensated
- 2 waves of CASI lab-based/online surveys with young adults (age 20/24)

Teacher Surveys

- 9 waves of postal teacher surveys (age 7-17)



Additional Data Collections along Main Surveys

Waves 1-3

- Interviewer/Observation questionnaires (parent and child interviews)
- Process evaluation data on the implementation of the prevention programs

Waves 6-9

- Resting heart rate & biceps circumference

Wave 8

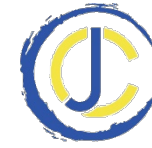
- Embedded decision-making games (trust; dishonesty; risk taking), in collaboration with Prof. H. Rauhut, UZH

COVID-19 Impact Surveys

- Online survey series on experiences during, and consequences of, the COVID-19 lockdown in spring 2020
- 4 surveys from April-September 2020
- Ca. 500-800 participants, recruited from W8 z-proso participants



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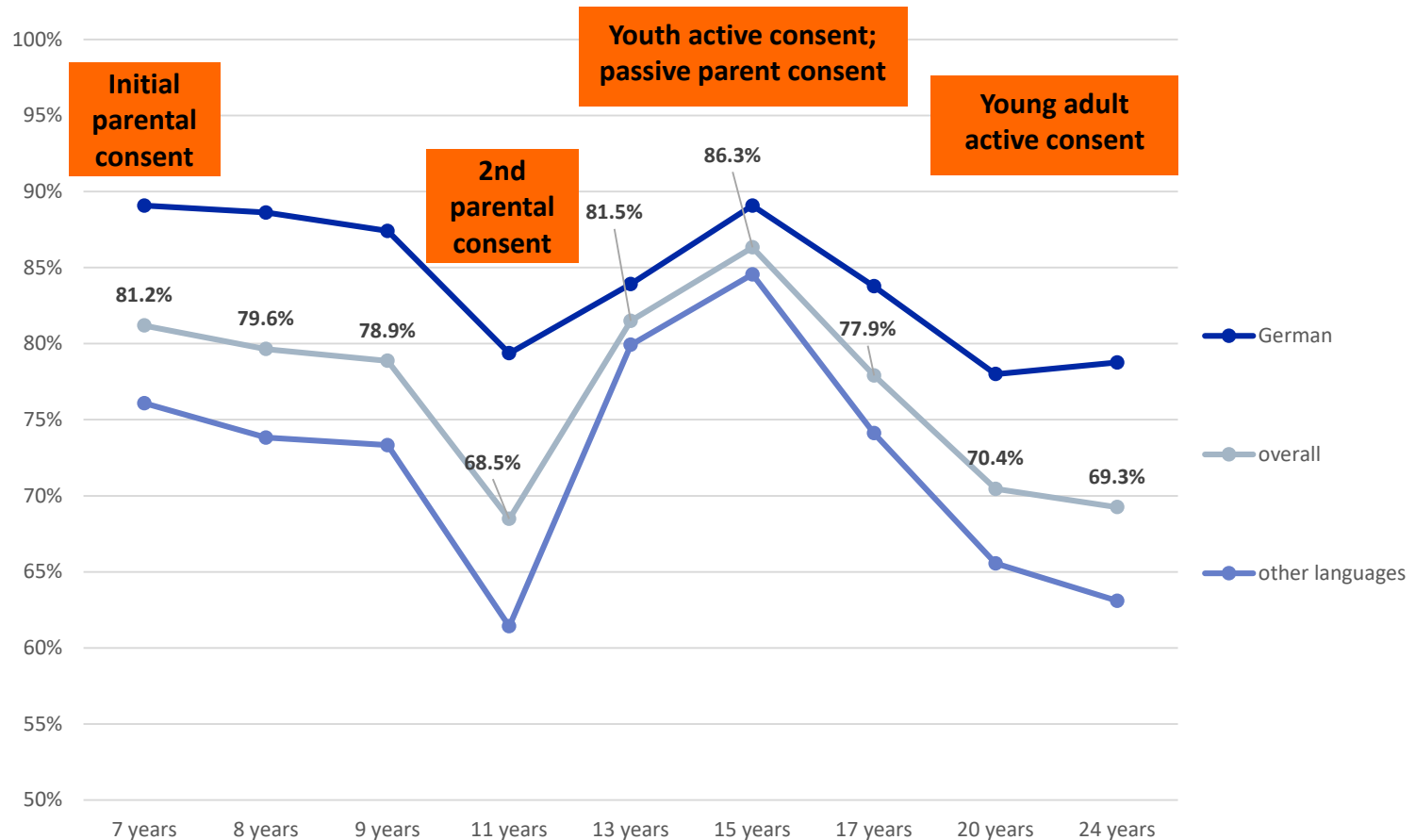
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z-proso Surveys: Participation Rates



Young People Participation Rates by Parent Language

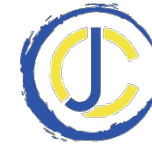
% of Target Sample



- 75% of the initial participants still participated at age 24



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Survey Instruments & Scales



Measurement Concept Guided by Study Goals

Developmental Study

- Development of violence, delinquency, and other problem behaviors in the life course regarding ...
 - Extent/level of problem behavior
 - Continuity and change in the manifestations of problem behavior
- Identification of (causal) risk factors problem behaviour in key socio-ecological risk domains: individual, family, school, neighbourhood, wider society
- With the participation of an increasing number of collaboration partners, new research foci were introduced, implying additional scales.
 - Specifically, psychopathology, internalizing problems, and substance use have emerged as a new fields of research, beyond the initial focus

Programm Evaluation

- How effective have the two prevention programmes been with regard to targeted outcomes?
 - Focus on parenting (Triple P)
 - Focus on socio-emotional skills (PATHS)

Measurement of Social Behavior *as the Key Outcome Measure of the Study*

- Social Behavior Questionnaire SBQ (Richard Tremblay, Univ. of Montreal)
- Multi-perspective measurement (child/youth, parent, teacher)
- Six behavioral domains
 - Aggression (physical, reactive, proactive, indirect)
 - Non-aggressive problem behavior (stealing, lying)
 - Oppositional-defiant behavior (ODD)
 - Inattention and hyperactivity (ADHD)
 - Anxiety & depressiveness
 - Prosocial behavior
- New development of a child friendly self-administered instrument: “Tom & Tina”; age 7-9
- In addition, from age 11 on: multi-perspective measurement of delinquency and substance use



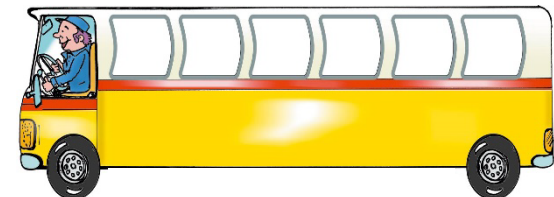
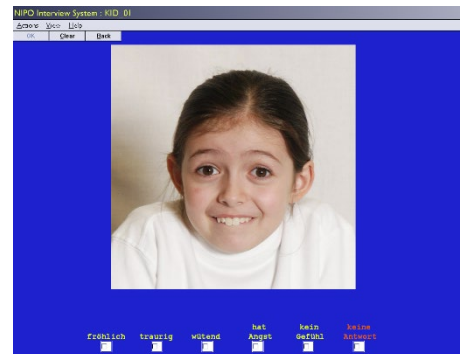


Parent Interviews: Standardized questionnaires *CAPI Home*

- General focus on family background & parenting
 - Family structure
 - Sociodemographic information
 - Parenting (Alabama Parenting Questionnaire)
 - Conflicts among household members; family climate
 - Leisure activities of the child
 - Neighbourhood characteristics
- Focus at wave 2
 - Parent characteristics (internalizing symptoms, self-control, parental conflict, etc.)
 - First school experiences
 - Use of parent support services (Triple P!)
- Focus at wave 3
 - Migration & acculturation
 - Media use

Child Interviews (CAPI; Age 7-9)

- Focus on social behavior, personality traits, attitudes, social skills, peer relationships, school, and leisure activities
- Playful tests and sociometric measures, strongly based on visual material, e.g.:
 - “Travel Game” (Sensation-Seeking)
 - “Coach Game” (sociometric measure)
 - ACES emotion recognition in faces
 - “How do you do it?” (conflict resolution skills)





Youth Surveys (Age 11-17)

Paper & Pencil

- Social behavior, delinquency, substance use
- Victimization
- Bullying perpetration and victimization
- Antisocial decision-making
- Personality & attitudes (e.g., self-control, moral neutralization, legal cynicism)
- Pubertal development
- Leisure activities, media use, peer relationships
- Attitudes toward school, class climate, relationship with teacher
- Professional psychosocial support
- Substitution for the discontinued parent interviews
 - Life-Events Scale (as a substitute for the EHC)
 - Parenting
 - Sociodemographic characteristics of the household
- In more recent surveys (age 15 onwards)
 - Sexuality & dating violence perpetration and victimization
 - Violent ideations
 - Violent extremist attitudes



Young Adult Surveys (Age 20/24)

CASI

- New scales/items introduced from wave 8 onwards, mainly as a result of new research collaborations
 - Stress and stress coping
 - Psychotic symptoms
 - Future orientation
 - Refined substance use scales (incl. polysubstance use and non-medical use of prescription drugs)
 - Possession of weapons
 - COVID-19-related scales (e.g. psychosocial impact, vaccination)
 - Sexual orientation and gender identity
 - Extended bullying scale (stalking, discrimination experiences)
 - Left-right political orientation
 - Acceptance of political violence
 - Conspiracy beliefs
 - Items on own parenthood, as a basis for *z-proso NextGen*

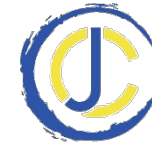


Postal Teacher Surveys

- Individual behavioral assessment of each participant
 - SBQ
 - School achievement
 - Role in the class (e.g., bullied, dominant, isolated)
- School- and class-level questionnaire
 - “School disorder”
 - Class climate



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Add-on Data Collections & Collaborative Studies



Data from Official Records

Criminal Justice Data

- 2018: Full criminal records from juvenile prosecution authorities
 - age 10 to 17 (i.e., until majority)
 - 1274 (98%) consented
 - 267 (21%) had a hit as defendants
- 2024 (ongoing): Full criminal records from adult prosecution authorities
 - age 18 to 24 (i.e., “young adulthood”)

School Records

- 2023: Full official school records on a year-to-year basis (school type, school grade, school place)



Collaborative Add-on Data Collections 2018

Zürcher Studie zu Gehirn und Immungenen (z-GIG)

- Sub-sample of approx. 200 z-proso participants, selected on the basis of prior bullying experiences
- **Study 1** Blood samples were taken to analyze messenger RNA, micro-RNA and inflammation parameters. The study also included three computer-based behavioral tasks.
PI: Prof. M. Shanahan (UZH)
- **Study 2** Investigation of brain activity of the test subjects during the execution of decision games using fMRI
PI: Prof. T. Hare (UZH)



Collaborative Add-on Data Collections 2018/2022

Hair sampling studies

- Hair samples of study participants analyzed for metabolites of stress- and sex hormones, as well as of psychoactive substances
- 2018/W8: n=1'008
- 2022/W9: n=886
- PIs: Prof. B. Quednow & Prof. L. Shanahan (UZH)

Experience sampling studies

- Smartphone-based repeated brief surveys of participants on their well-being, whereabouts, current activities, and daily experiences
- 5 assessment/day for two weeks
- 2018/W8: n=300
- To be reiterated in spring 2024
- PI: Dr. A. Murray (University of Edinburgh)



Collaborative Add-on Data Collections 2022

CANTAB

- CANTAB digital assessment tool was used to measure z-proso participants' cognitive function
- 20 min. self-administered assessment (Lab setting and online)
- 2022/W9: n=1050
- PIs: Prof. B. Quednow & Prof. L. Shanahan (UZH)



z-proso NextGen Study

- In the z-proso NextGen study, z-proso participants who became parents are invited to repeated online surveys in which they are surveyed about their parenthood.
 - Started in spring 2023
 - Surveys at child ages 0 (perinatal), 2, 4, and 7
 - Currently about 50 subjects involved, continuous recruitment ongoing
 - Directed by z-proso-Team



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z-proso Scientific Network & Publication Output



z-proso Core Team

- Study Direction

- Initiator & co-PI: Prof. M. Eisner, Inst. of Criminology, University of Cambridge & Jacobs Center UZH (Criminology, Sociology, History)
- Co-PI: Dr. D. Ribeaud, Jacobs Center UZH (Criminology, Sociology, Social Psychology)
- Co-PI: Prof. L. Shanahan, Inst. of Psychology & Jacobs Center UZH (Developmental Psychology)



- Team Jacobs Center UZH

- Fieldwork Management & Research Associates: Céline Gloor & Lea Buzzi
- Study Administration: Ines Florin





z-proso International Research Network (zIReN)

- z-proso International Research Network (zIReN)
 - Worldwide open network of research partnerships at the Universities of Zurich, Cambridge, Edinburgh, Utrecht, Freiburg (MPI), Pittsburgh, Cordoba, Bari ...
 - Interdisciplinary orientation (Criminology, Developmental Psychology, Sociology, Neurosciences, Behavioral Economics, Education Science, ...)
 - Currently 30-40 researchers involved
- Research output to date:
 - >130 peer-reviewed publications from ...
 - > 40 different first authors in ...
 - > 70 different journals



Selected Research Topics of the Main Study

Methods Papers

- Ribeaud, D.; Murray, A.; Shanahan, L.; Shanahan, M.; Eisner, M. (2022). **Cohort Profile: The Zurich Project on the Social Development from Childhood to Adulthood (z-proso)**. *Journal of Developmental and Life-Course Criminology*, 8, 151–171.
- Eisner, N.; Murray, A.; Eisner, M.; Ribeaud, D. (2019). **A practical guide to the analysis of non-response and attrition in longitudinal research using a real data example**. *International Journal of Behavioral Development*, 43(1), 24–34.
- Murray, A.; Eisner, M.; Ribeaud, D. (2018). **Development and Validation of a Brief Measure of Violent Thoughts. The Violent Ideations Scale (VIS)**. *Assessment*, 25(7), 942–955.

Impact of the Prevention Programs

- Averdijk, M.; Zirk-Sadowski, J.; Ribeaud, D.; Eisner, M. (2016). **Long-term effects of two universal interventions on adolescent delinquency, substance use, and externalising behavior**. *Journal of Experimental Criminology*, 12(1), 21–47.
- *Side note: Programs hardly proved effective*

Parenting, Childcare, and Behavioral Outcomes

- Averdijk, M.; Ribeaud, D.; Eisner, M. (2022). **External childcare and socio-behavioral development in Switzerland: Long-term relations from childhood into young adulthood**, *PLOS ONE*, 17(3), e0263571.
- Neaverson, A.; Murray, A.; Ribeaud, D.; Eisner, M. (2020). **A longitudinal examination of the role of self-control in the relation between corporal punishment exposure and adolescent aggression**. *Journal of Youth and Adolescence*, 49(6), 1245-1259.

The Teacher-Child Relationship

- Obsuth, I.; Murray, A.; Knoll, M.; Ribeaud, D.; Eisner, M. (2023). **Teacher-student relationships in childhood as a protective factor against adolescent delinquency up to age 17 – a propensity score matching approach**. *Crime and Delinquency*, 69(4), 727-755.

Legal Socialization and Extremist Beliefs

- Nivette, A., Echelmeyer, L., Weermann, F., Eisner, M., & Ribeaud, D. (2022). **Understanding changes in violent extremist attitudes during the transition to early adulthood**. *Journal of Quantitative Criminology*, 38, 949–978.



Selected Research Topics of the Main Study

Developmental Victimization Research

- Averdijk, M.; van Gelder, J.-L.; Eisner, M.; Ribeaud, D. (2016). **Violence begets violence, but how? A decision-making perspective on the victim-offender overlap.** *Criminology*, 54(2), 282–306.
- Obsuth, I.; Müller-Johnson, K.; Murray, A.; Eisner, M.; Ribeaud, D. (2018). **Violent poly-victimisation over time: A longitudinal examination of the prevalence and patterns of physical and emotional victimisation throughout adolescence (11-17 years).** *Journal of Research on Adolescence*, 28(4), 786-806.

Patterns and Predictors of School Bullying

- Zych, I.; Llorent Garcia, V. J.; Ttofi, M. M.; Farrington, D. P.; Ribeaud, D.; Eisner, M. (2020). **A longitudinal study on stability and transitions among bullying roles.** *Child Development*, 91(2), 527-545.

Developmental Psychopathology and Comorbidity

- Murray, A.; Caye, A.; McKenzie, K.; Auyeung, B.; Murray, G.; Ribeaud, D.; Freestone, M.; Eisner, M. (2022). **Reciprocal developmental relations between ADHD and anxiety in adolescence: A within-person longitudinal analysis of commonly co-occurring symptoms.** *Journal of Attention Disorders*, 26(1), 109–118.

Internalizing Problems, Self-Injury, and Suicidality

- Steinhoff, A.; Ribeaud, D.; Kupferschmid, S.; Raible, N.; Quednow, B.; Hepp, U.; Eisner, M.; Shanahan, L. (2021). **Self-injury from early adolescence to early adulthood: Age-related course, recurrence, and services use in males and females from the community.** *European Child & Adolescent Psychiatry*, 30, 937–951.

Substance Use

- Quednow, B.; Steinhoff, A.; Bechtiger, L.; Ribeaud, D.; Eisner, M.; Shanahan, L. (2022). **High prevalence and early onsets: Legal and illegal substance use in an urban cohort of young adults in Switzerland.** *European Addiction Research*, 28, 186-198.

Intimate Partner/Dating Violence

- Pereda, N.; Greco, A. M.; Díaz-Faes, D. A.; Eisner, M.; Ribeaud, D. (2022). **Early childhood predictors of teen dating violence involvement at age 17.** *Journal of Youth and Adolescence*, 51, 2219–2234.



Selected Research Topics of the Main Study

Sexual Minorities at Risk

Garcia Nuñez, D.; Raible-Destan, N.; Hepp, U.; Kupferschmid, S.; Ribeaud, D.; Steinhoff, A.; Shanahan, L.; Eisner, M.; Stulz, N. (2022).

Suicidal ideation and self-injury in LGB youth: A longitudinal study from urban Switzerland. BMC Child and Adolescent Psychiatry and Mental Health, 16, Article number 21.

Vock, F.; Johnson-Ferguson, L.; Bechtiger, L.; Stulz, N.; von Felten, J.; Eisner, M.; Hepp, U.; Ribeaud, D.; Shanahan, L.; Quednow, B. (2023).

Substance use in sexual minority youth: Prevalence in an urban cohort. Child and Adolescent Psychiatry and Mental Health, 17, 109.

Impacts of COVID-19 pandemic

Shanahan, L.; Steinhoff, A.; Bechtiger, L.; Murray, A.; Nivette, A.; Hepp, U.; Ribeaud, D.; Eisner, M. (2022). **Emotional distress in young adults during the COVID-19 pandemic: Evidence of risk and resilience from a longitudinal cohort study.** Psychological Medicine, 52, 824–833.

→ *z-proso's most cited paper to date: 800 citations* 😊

Interested in z-proso publication updates?

- Consult our regularly updated publication list:
https://www.jacobscenter.uzh.ch/en/research/zproso/aboutus/publication_list.html
- Follow-us on Twitter/X: [@zproso](https://twitter.com/zproso)



Getting Access to the Data

- Data available for interested researchers and students
 - Part of the data (young people surveys age 11-20) will be accessible on the SWISSUbase repository by 2024
- We offer data documentation and “technical” data-related support
- Procedure
 - Brief proposal (1-2 pages) including the research question, the model to be tested, and the indicators needed to test the model.
 - Sign a confidentiality agreement
- Contact

Denis.Ribeaud@uzh.ch



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Thanks for your attention!