

Summarizing Report from Longitudinal Research on Development In Adolescence (LoRDIA)

Arne Gerdner, 25 February 2021

Adolescence is a critical time in terms of biological, emotional, behavioural and social development. It is a bridging period from childhood to adulthood, when the person adapts to rapid physical changes, tries to find a sexual role, personal identity and integrity and prepares for place in society with education and vocational training. Although most adolescents are physically healthy, they may feel lost and insecure of themselves. The strive to be accepted in peer groups may lead to behaviours that in many ways are harmful to themselves and to others. Emotional problems, substance misuse and antisocial or criminal behaviours often have starting-points during adolescence and these problems are often intertwined. Although these problems are generally well-known, there remained a lack of evidence on the causal relations in such processes. Several state-of-the-art reviews had repeatedly called for improved research in the area of adolescent substance misuse and various emotional, behavioural, educational and other related problems, using prospective longitudinal design (Weinberg et al., 1998; Macleod et al., 2004; Degenhardt & Hall, 2012). Therefore, in 2012, we initiated a programme aimed to develop research and build doctoral education around prospective longitudinal research on young persons from early adolescence and into adulthood, based on combined efforts of social work and psychology and with strong empirical base of many research aspects with possibilities of positive synergies between them.

The organizational features of the LoRDIA programme

Funding

The research programme was granted a major financial contribution in a combined decision (No. 259-2012-25) from four Swedish research foundations: Swedish Research Council (VR); Swedish Research Council for Health, Working Life and Welfare (FORTE); Sweden's Innovation Agency (VINNOVA); and The Swedish Research Council Formas. The original name of the programme in Swedish was *Tonårsutveckling – Ett prospektivt longitudinellt forskningsprogram om ungdomars sociala nätverk, missbruk, psykiska hälsa och skolanpassning* (i.e. Teenage development – A prospective longitudinal research programme on young people's social networks, addiction, mental health and school adaptation).

The programme then took the English name Longitudinal Research on Development In Adolescence (LoRDIA; website: www.lordia.se). It was in full operation 2013-08-01 and the original financial contribution lasted until the end of 2020. Additional fundings for an original

sub-project (Lygnegård) on adolescents with disabilities were granted from Säfstaholm Foundation (No. ST-2014-023), Sunnerdahl Disability Foundation (No. 40-14), and Futurum, Jönköping County (No. 2014/3821-271).

Several additional research projects have later emerged based – fully or partially – on data collected within LoRDIA. The first was the project led by Disa Bergnehr¹, ‘Re-settlement strategies in families: Immigrants’ parenting, adolescents’ development and psychological health’ (FORTE No. 2015-0058) which contained two parallel longitudinal studies, one qualitative and one quantitative. The latter was built on LoRDIA. Three ongoing and more recently started projects building on data from LoRDIA are: a project led by Kristina Berglund² ‘Children of parents who drink too much’ (Systembolaget No. 2019-0029); a second project led by Ylva Bjereld (Linköping University) and Lilly Augustine (JU) ‘Bullying and its association to emotional health in pupils, with special focus on disabled children’ (Public Health Agency, No. 00751-2019-2.3.1); a third by Russell Turner ‘Risky drinking – Developmental patterns of alcohol use in adolescence’ (Systembolaget 2020-0065). Another project led by Thorbjörn Ahlgren³ is the planned successor of LoRDIA, following the same population with new institutional data collections (registers, records) up to the age of 25 years. The project name is Longitudinal Research on Development to Young Adults (LoRDYA) and financed by FORTE (No. 2019-00280). There are applications for more projects based on LoRDIA with pending decisions. Only those hitherto studies directly concerning LoRDIA will be referred to and listed below in the Results section.

Organisation

The programme is the result of a collaboration between Jönköping University (JU), School of Health and Welfare, and Gothenburg University (GU), Departments of Psychology, and Social Work. The School of Health and Welfare, JU, is harbouring the project and responsible for administering its finances. A group of four researchers responsible for the original application included Arne Gerdner, professor in social work (1st applicant), professor Mats Granlund, professor in disability research, both at JU, the late Claudia Fahlke, professor in psychology, and Anette Skårner, associate professor in social work, both at GU. They appointed Thorbjörn Ahlgren, now PhD in social work (JU), as the first programme coordinator, and these five constituted the steering group of LoRDIA, with Arne Gerdner as programme leader. In 2016 Disa Bergnehr (JU), at that time associate professor in child research, was included as member the steering group being responsible for the first research project affiliated to LoRDIA, as mentioned above. Due to health problems from late autumn in 2018 followed by her tragic death in 2020, Claudia Fahlke could no longer serve as member of the steering group, and she was replaced by Kristina Berglund (GU), associate professor in psychology.

Thorbjörn Ahlgren served as the first programme coordinator from 2013 until 2016 when he was replaced as such by Helena Engkvist. Timo Mäntylää Liffner was employed as part-time administrator from 2014. These have thus served as programme administrators of LoRDIA. During the first year, associate professor Anette Skårner also served as local coordinator at GU.

¹ Coapplicants: Rolf Holmkvist (Linköping University) and Arne Gerdner (JU)

² Coapplicants: Karin Boson (GU), Peter Wennberg (Karolinska Institutet) and Arne Gerdner (JU) .

³ Coapplicants: Johan Melander Hagborg and the late Claudia Fahlke (GU), Helena Engkvist (administrator, JU), Torbjörn Kalin and Arne Gerdner (JU), and Bo Vinnerljung (Stockholm University).

For data collection and scanning, temporary staff has been recruited to work together with the doctoral candidates and the administration, respectively. Others involved in LoRDIA – members of the steering group, tutors to the doctoral candidates – are not financed by LoRDIA, but by their respective university.

Together with the members of the steering group, the following doctoral candidates were part of the research team from 2013: Birgitta Ander and Frida Lygnegård (JU), Karin Boson and Johan Melander Hagborg (GU). In 2014, Sabina Kapetanovic (JU) joined; in 2015, Russell Turner (GU); and in 2017, Olov Aronson (JU). Torbjörn Kalin (JU) started in 2019, and he now continues as a doctoral candidate in the successor programme LoRDYA.⁴ All these had their main tutors in the steering group, and in addition to them 1-3 researchers served as co-tutors for each doctoral candidate⁵. Therese Skoog (GU) became main tutor of Sabina Kapetanovic in 2017. All these have been included in the research team of LoRDIA. From 2017, Anders Håkansson, professor in psychiatry, Lund University, and from 2018, Bo Vinnerljung, professor in social work, Stockholm University, accepted to join the team as additional experts of their fields.

The LoRDIA research group, altogether up to 32 persons, have assembled twice a year at programme conferences 1-3 days, discussing papers in progress and coming data collections. In addition, the senior researchers have given presentations or lectures on research issues.

Collaboration with other research groups in our universities

At the School of Health and Welfare, JU, there are two research milieus with regular seminar series, in which our team members have been involved: SALVE (Social challenges, Actors, Living conditions, research VEnue) and CHILD (Children, Health, Intervention, Learning and Development).

SALVE is an interdisciplinary forum where projects, manuscripts and published papers are presented and discussed. Its members are mostly from social work, sociology and disability research. Within SALVE, there are many relevant projects, among which are some concerning substance misuse and dependence, i.e. clinical studies on the severely dependents, addicts' social networks, etc. and projects with focus on the social welfare interventions toward children at risk, community work with immigrants etc.

CHILD is an interdisciplinary research milieu with focus on disabled children and children with long-term health problems. CHILD is part of the multicentre Institute for Research on Disabilities (IHV), which is run in cooperation between the universities in Jönköping, Linköping and Örebro. IHV is a leading European research platform in disability research, within which CHILD is responsible for research on disabled children. CHILD is also a part of CeDDR (Centre for Developmental and Disability Research). CeDDR involves universities in Australia, USA, Canada, the Netherlands and Sweden. CHILD is responsible for an international web-based master education in 'Childhood Intervention'. Several LoRDIA members take part as lecturers.

⁴ Of these, KB, JMH, SK and RS were fully, and BA and FL partially, financed by LoRDIA. OA was financed internally by JU and TK partially by JU and partially by LoRDYA.

⁵ Co-tutors: Agneta Abramsson (JU and Kristianstad University), Eleonor Fransson (JU), Disa Bergnehr (JU, also main tutor), Karina Huus (JU), Lilly Augustine (JU), Therese Skoog (GU, later main tutor), Margareta Bohlin (Högskolan Väst and GU), Kristina Berglund (GU, later main tutor), Peter Wennberg (Karolinska Institutet), Inga Tidefors (GU), Kristian Daneback (GU), Sofia Enell (JU and Linné University), Michael Wells (Karolinska Institutet), Birgitta Persdotter (Karlstad University).

Through CHILD, there has also been a close connection to another faculty within Jönköping University, i.e. School of Education and Communication (HLK). Professor Mats Granlund is the leader of CHILD and a member of the LoRDIA steering group.

At GU, both the involved institutions, i.e. the Institution of Psychology and the Institution of Social Work, have developed strong research milieus on adolescence, addiction and psychological health, now organized in collaboration within CERA (Centre for Education and Research on Addiction). CERA had responsibility for a master education on substance misuse and dependence, in which the doctoral candidates took part as lecturers. CERA also arranged a research course “Addiction – interdisciplinary perspective”, in which most of the LoRDIA doctoral candidates participated, together with others from the whole of Sweden. Professor Claudia Fahlke, was the leader of CERA with associate professor Anette Skårner as member of its steering group. Both were members of the LoRDIA steering group. After the death of Claudia Fahlke, associate professor Kristina Berglund replaced her as the leader of CERA. LoRDIA is listed as a programme linked to the CERA research network (see <http://cera.gu.se/forskning>).

Research procedures and quality assurance

Data collected

LoRDIA followed adolescents of two year-cohorts chosen as all students in grades 6 or 7 (mostly born in 2000 and 2001) in four small and medium-sized municipalities (10,000-38,000 inhabitants) in the south of Sweden. Two municipalities are industrial and two are commuting communities to nearby cities. One of the commuter municipalities is located near a large city. The unemployment rate, annual income, educational level, and proportion of first-generation immigrants across the four municipalities is close to the national mean (Statistics Sweden, 2019).

Before collecting any data, all parents were informed by letter (to both parents if they lived separately) about the aims and scope of the programme, its longitudinal character, and their right to decline participation on behalf of their child. For all parents of foreign origin, the letters had been translated into their their own vernacular (32 different languages other than Swedish). If the parents did not decline their child’s participation, the child was invited and given the same information in content, although adapted to their age in form. They were then informed of their right to decide for themselves whether to take part, including their right to opt out from the programme. Of all 2150 invited by parent letter, 1884 students (88 %) accepted to stay as part of the programme, thus forming the study population of LoRDIA.

In six data collection waves, we monitored a number of aspects, e.g. psychological health and ill-health; puberty and body image; functional impairments and participation; substance use and misuse; bullying (victim as well as perpetrator of); delinquency; sexual experiences, orientation and risk behaviours; leisure time activities; parenting and parent-child relations; family and social factors; sibling, peer and romantic relations; experiences of childhood abuse and neglect; as well as school relations and school functioning. It included personality assessment using the JTCI (Junior Temperament and Character Inventory; in Wave 2), heredity (in Wave 5) and structured psychiatric assessment (in Wave 6). Waves 1-5 also included listing up to eight close friends, most of who are identifiable as participants in LoRDIA. These are used for social network analyses, e.g. the actor-oriented model (Ripley et al., 2021), to follow changes in peer networks

in relation to various aspects, i.e. substance use and other risk behaviours, but also social cross-cultural integration etc.

Comprehensive questionnaires in waves 1-5 (350-450 items per wave) were collected in classrooms by the research team, starting in 2013, and with new data collections in 2014 (Wave 2), 2015 (Wave 3) and 2016 (Wave 4)⁶. Out of the 1884 children in the study population, 1760 participated at least once (93.4 %) up to grade 9, with 70–85 % participating in each wave. Those who never participated studied Swedish as a second language more often compared to participants (26.6 % vs. 10.9 %, $p < 0.001$). Still, of those who studied Swedish as second language, 85 % participated.

Parental mail questionnaires (Waves 1 and 2) had low response rates (32 % and 41 %, respectively). In all waves 1-4, teachers responded to web-based questionnaires on school functioning of the individual adolescents (response rates > 70 %), and complete school register data were collected on absenteeism and merits.

Wave 5 questionnaires were collected in the autumns of 2017 and 2018, respectively, when the two cohorts were in the second year of upper secondary school/high school. In Wave 5, about half (50.4 %) participated.

Detailed information on variables in waves 1-5 is available in three Code Books – one concerning adolescent questionnaires, one on parent questionnaires, and one on school register data and teacher questionnaires.

Based on prescreening in Wave 5 ($n=949$), structured interviews (Wave 6, $n = 404$) on psychiatric and substance use disorders were conducted on telephone by trained interviewers with professional skills in psychiatry or psychology. In addition to professional merits, all 20 interviewers were trained in the instruments to be used and passed as qualified for the task. The adolescent participation in all 6 waves is shown in the flowchart, added as an appendix.

Methodological challenges

The first challenge concerned approval from parents of their adolescents' participation, since they were then < 15 years. If active written consent had been required, we would have lost many students whose parents did not bother to reply; especially parents coming from less integrated or from less orderly families, resulting in a non-representative study population. We raised that issue to the Regional Research Ethics Board and got approval for s.c. passive consent, i.e. parents were given the choice to actively opt-out on behalf of their adolescents. They could inform us about the opt-out decision by prestamped letters, by e-mail or by telephone, without having to explain why. If they did not do that, the students themselves had to decide whether to take part or not. The Regional Research Ethics Board decided to accept our application to apply passive consent on the conditions that we could ensure that all parents had been properly informed, including both parents when separated, and including those who do not speak Swedish well. Detailed letters of information were sent to all parents' own home addresses, and in their their own vernacular. Thus, it was translated into 32 languages other than Swedish to ensure that all parents had equal

⁶ Wave 4 was originally named 'Wave 3b' since it only concerned the youngest cohort to get complete datasets from the final year 9 of high school. The old label is still in the data files, but most articles adopted the new labels, thus Waves 5 and 6 replacing previous 'Waves 4 and 5'.

opportunities to consent or to withdraw their consent. About two months later when they received their first parental questionnaire, all parents were also reminded of their right to opt-out on behalf of their child. At first, 318 opted out (202 on parent's decision and 116 on student's own decision), but before the second wave, 52 of these reversed their decision to opt out (9 parent's decision and 43 student's own decision) and, based on that, these students requested to be accepted as participants. Those who finally had opted out (193 on the parent's decision, 73 due to student's own decision) did not differ from the study population in terms of gender, immigrant status (studying Swedish as second language), school merits, or absenteeism when compared to participants using school register data. After Wave 2, no one opted out over the years. Together with having good turn-up at data collections, we interpret this as confidence in the research programme.

Another challenge concerned the construction of the questionnaires. With the ambition to include *all* students in the two cohorts, including those with learning disabilities and attention deficits, the forms had to be adapted to be easy to understand and easy to fill in. Therefore, all questionnaires (in all waves) were before their use piloted in similar student populations of the same age. By *read-aloud pilots* to 4-5 students of each group, problems were identified and wording was changed to make them easy to understand and to complete. By *full class pilots*, all scales including those based on modified items were checked as for homogeneity and internal consistency, both of which to our satisfaction showed the same high psychometric quality also after modification. Since both read-aloud and full class pilots were conducted in classes following the regular syllabus as well as in classes for adolescents following the syllabus for students with learning impairments, there were four pilots prior to each data collection wave. The positive experiences of these adaptations made us decide to – from Wave 2 – use questionnaires adapted in this way to *all* students, i.e. not only to those with learning difficulties. This has been beneficial to the whole programme, making it easier for *all* students to understand the questions and participate in the data collections over the years.

Given the broad multidisciplinary character of the project, another challenge has been to cover all aspects needed for the various research aims, while keeping the longitudinal ambition with repeated measures. This resulted in quite extensive questionnaires. To some extent we had to reduce the number of items in some scales in later waves, always after considering that the psychometric quality was assured. Still they were very comprehensive. They, however, benefitted from our efforts to make them easy to fill in, also for students with cognitive disabilities. The time needed to complete the forms was reduced from 90 to 50 minutes (mean) from Wave 1 to Waves 3-4, and most students responded (in the questionnaires) that this was quite acceptable. For the participants to stay sharp and focused during data collection, they were all offered fresh fruits or raisins as snack.

With having access to a rich database covering many ethically sensitive aspects of the lives of so many persons, follows also great responsibility to safeguard the integrity of the participants. In a project of this size, with data collection in about 25 different schools and many persons involved in analysing the data, mismanagement could endanger the confidentiality, and risk harming both participants and their trust in research. Therefore, all names or id-numbers were replaced with four-digit codes, and access to the code-key was only available to the project administrative group of two persons. After the first wave, the students' names and id-numbers were not to be written on any questionnaire, only the four-digit code.

As with all prospective longitudinal projects, the problem has been to keep the participants in the project, without losing too many over the years. There was a dip in response rate in Wave 3 (70 %) due to problems in cooperation with teachers in a few specific schools. The problems were dealt with in discussions with the municipal school director and the principals of these schools. In Wave 4, response rate increased to 78 %, about the same as in Wave 2. Thus, a key to succeed in data collection in adolescence is having good cooperation with school authorities and school staff. From the beginning, it was agreed that each municipality would get reports on aggregated outcomes for the municipality concerning student ratings of their comfort in school, estimates on their relations to teachers and other school related items, as well as substance use and wellbeing. The research team also offered to participate in teacher seminars with lectures on requested topics. This was done on two occasions.

Among those students lost in waves 3 and 4, were about 80 students who with their families had migrated to other cities in the years up to 2016, and in 2017 this number had increased to 125. It was also more problematic to collect data when the adolescents after ninth grade of compulsory school split up into almost 90 different upper secondary schools/high schools in Wave 5, sometimes there were only one or two students per school. We therefore offered incentives (cinema tickets) to all participants, and used mailed questionnaires to reach those whom we had not been able to meet in classrooms. Altogether we had just over 50 % participation in Wave 5. When controlling for ethnic background, there was some more attrition among students with other than Western origin, but this difference was not significant (Gerdner & Kapetanovic, 2021).

The interviews in Wave 6 depended on having participated in Wave 5. At the end of the questionnaire in Wave 5, information was provided about the planned interview and asking for contact addresses (telephone and e-mail) to reach them. Of the Wave 5 participants, 95 % provided such contact addresses, thereby showing preparedness for participating in interviews. It would, however, not have been feasible to interview all these. Those who declared having no emotional problems, no substance use and no gambling or gaming habits would not provide specific information on problems in these areas in an interview. It would have been waste of time and resources to interview them. Therefore screening instruments such as AUDIT and DUDIT for substance use problems, and MINI-screen for other psychiatric problems and a few questions on gambling and gaming were included in the preceding Wave 5. Based on these screenings, relevant cases over cutoff were chosen for interviews in Wave 6. The instruments used in the interviews were Mini International Neuropsychiatric Interview (M.I.N.I., version 7.1), *Alkohol Drog Diagnos Instrument*, youth version (ADDIS-Ung), and two shorter instruments on gaming (IGDS) and gambling (NODS). In all, 404 interviews were conducted, although only with the relevant interview forms for that person. These resulted in 324 interviews using M.I.N.I., 163 using ADDIS-Ung, 167 using NODS and 125 using IGDS. Together with the screening data of Wave 5 these provide data for future studies, which to our knowledge will be the first epidemiological adolescent studies based on structured interviews ever conducted in Sweden. Thereby, we hope to have laid a solid groundwork for the longitudinal studies of these cohorts also concerning their future development, planned to be carried out as register studies in the successor programme LoRDYA.

The LoRDIA programme adheres to the principle of open science, not only that the articles will be published with open access, but also that other researchers may gain access to deidentified data files for their own research. New collaborators are invited. The database is at the moment being

prepared to be available according to the statutes of the Swedish National Data Service (SNDS). To manage the transition of data to the formats of SNDS in ways that will safeguard confidentiality and prevent backward identification, is thus another challenge.

Changes in programme and research design

Compared to the original plans outlined in the application for funding, some important changes in design were made, in order to improve the quality and richness of data. Our original plans were to follow about 1000 teenagers of one year-cohort in three waves starting from the age of 13, followed by another at age 15 and a third at age 17, and to add another 1000 adolescents of the same age in the third wave. Instead we started with two year-cohorts, one already from age 12 and one from age 13, with the purpose of following adolescents starting when most of them were naïve in terms of various substance use. This worked quite well since less than 3 % of boys and 2 % of girls at the age of 11 had tried cigarettes, and 4 % of boys and 1 % of girls had tried alcohol drinking, the two most frequent substances. Doubling the total number of participants would make more advanced analytical tools possible, also when models need to be e.g. gender separated.

The originally planned three waves of questionnaires now increased by one or two, respectively, for the two cohorts. First, we added a new wave (Wave 2) to all at age 13/14 in order to have space for including the personality inventory JTICI. Adding Wave 4 (then called Wave 3b) only to the younger cohort was to have yearly follow-ups with complete datasets all years in high school, including grade 9, i.e. at the end of the compulsory school.

It was first planned to have parental questionnaire only in Wave 1, but we extended that also to Wave 2. This gave us the possibility to include a collateral version of JTICI to parents concerning their child, making it possible to study consistency between JTICI with different informers, since validation of JTICI was agreed to be carried out within the LoRDIA programme.

Collection of teacher forms and school registry data in connection to all student data collections during compulsory school is according to the original plan, but since student data collections increased, this increase consequently applied also to teacher forms and to school registry data. Although the teacher rating took (on average) about 10-12 minutes to fill, this multiplies with the number of students participating in each class. Therefore the total time occupying the class teachers could be quite a lot. After discussion with the municipal school authorities and some principals, we reduced the number of questions in the teacher questionnaires in waves 3 and 4.

One important change was increasing the number of doctoral candidates in the programme from four to eight. This could be made partly through additional external funding and internal financing (JU), and some different priorities, i.e. another PhD candidate instead of post doc (GU). Also, we had previously planned to have a consulting statistician. Instead, most of the doctoral candidates participated in additional and more advanced courses, e.g. on structural equation modelling, actor-oriented network analysis etc.

The content of data collection has expanded as a result of involving many ambitious doctoral candidates, who all contributed with new ideas and proposals. We should especially mention the quite large section concerning sexuality, not included in the original plan but obviously an important part of adolescent development, and an aspect of a healthy life that also involves many risks, which may have impact on emotional problems. Thus, the sexual development is studied

from the 2nd wave with few questions and more questions from Wave 3, including onset of sexual activities, sexual orientation, frequency, satisfaction with sexual habits, questions concerning sexual risk behaviours and negative experiences. From Wave 5, experiences of pregnancies – own pregnancy for girls, and having made a girl pregnant for boys, and how these were handled – are included.

The combination of rich data (in content and numbers), and extension to 4 and 5 waves of data collection of student questionnaires makes more advanced statistical analyses possible. Variable based analyses such as structural equation analysis is one approach; another is person based design based on creating groups of subjects with similar characteristics over several variables. This approach allowed us to follow trajectories of groups over time with focus on patterns of functioning, and hopefully lead to better prognosis on person level. The programme has also initiated discussions on how change over time can be conceptualized. Few studies today have explicit theories about the shape or slope of change. This discussion is now facilitated by LoRDIA having up to five data collection points based on questionnaires (plus the interviews in Wave 6).

Ethical approvals

The ethical considerations concerning information to participants and parents, consent, data security etc. were presented above. Based on those, the research programme and data collection details were approved by the Regional Research Review Board in Gothenburg (No. 362-13; 2013-09-25) and with approval confirmed for Wave 2 (2014-05-20), Waves 3 and 4 (2015-09-02), Wave 5 (2017-07-25) and Wave 6 (2018-07-26).

The successor programme LoRDYA applied for and got ethical approval from The Ethics Review Authority for data collection based on social welfare records. It is relevant here since this approval include using the LoRDYA data together with the previous LoRDIA data (No. 2019-00664; 2019-01-29). An additional application will seek similar approval for register data.

Data quality

Most questions included in the questionnaires come from internationally known and validated instruments. The psychometric properties (homogeneity in factor analyses and internal consistency using Cronbach's alpha) of all scales and waves were investigated in the pilots before as well as after all data collections, and mostly found to be satisfactory or excellent.

The LoRDIA is to a great extent based on self-reports. The question then is whether self-reports can be trusted as valid, especially concerning sensitive questions. Hardt and Rutter (2004) examined the evidence of validity of retrospective reports by adults concerning their own adverse experiences in childhood and found a substantial rate of false negatives and measurement errors, but they also found that false positive reports probably are rare. They argued that comparison of contemporaneous and retrospective accounts obtained in epidemiological/longitudinal studies of non-clinical populations is the best method to address this issue of validity. In LoRDIA, we had the opportunity to conduct test-retests on some of the most critical questions for recollection. Test-retest are only meaningful when change cannot explain disagreements between reports, i.e. when the questions refer to the same timespan. Therefore, the tests are usually conducted shortly after one another (e.g. a few days or a week). LoRDIA applies instead long-term test-retests, i.e. with

one year in between, for items when the question defines the same time period, e.g. both questions concern the situation before the age of 12. Such long-term test-retests are more critical. After one year, it would in general be impossible to remember replies to specific questions, not knowing that they would be repeated in coming data collections. We argue therefore that substantial stability in long-term test-retest on such items adds support to the validity of the self reports.

The use of repeated questions in many waves made it possible to conduct such test-retests, applied when change cannot explain disagreements between reports. One study on childhood abuse and neglect (Melander Hagborg et al., 2021) reports from one-year test-retest on all Childhood Trauma Questionnaire (CTQ) items. The study showed that systematic correlation, Gamma (γ), indicated that consistency was substantial (Emotional abuse, Emotional neglect, and Physical neglect; mean $\gamma=0.71-0.75$) or almost perfect (Physical abuse and Sexual abuse; mean $\gamma=0.83$ and 0.91). Another study (Ahlgren et al., 2021) tested three singular items which all had almost perfect consistency: Witness to domestic violence ($\gamma=0.89$); Child Welfare contact due to misconduct ($\gamma=0.92$); and police contact due to crime ($\gamma=0.94$). Concerning substance misuse, Ander et al. (2020) reported almost perfect test-retest agreement between waves 1 and 2 concerning timing of early onset in alcohol drunkenness ($\gamma=0.95$) and cannabis use ($\gamma=0.97$). Thus, all tested variables on abuse, neglect and behavioural problems showed substantial or almost perfect consistencies.

Another strategy to secure validity is agreement with collateral reports, e.g., comparing adolescent and parent reports. This strategy was applied in LoRDIA by Boson et al. (2017) concerning the Junior Temperament and Character Inventory (J-TCI). Kapetanovic & Boson (2020) studied agreement between parental and adolescent reports on communication patterns within the family. A coming study by Augustine et al. concern agreement between adolescent self-reports, parental reports and teacher reports on Strength and Difficulties Questionnaire (SDQ).

Results

Doctoral dissertations

Hitherto, six of the doctoral candidates successfully defended their PhD dissertations⁷, i.e.:

- Birgitta Ander (2018). *Ungdomars berusningsdrickande – Vem, var och med vilka?* [Adolescents' binge drinking – Who, where and with whome?] Jönköping University, School of Health and Welfare.
- Karin Boson (2018). *Psychological Perspectives on Alcohol Use Among Young Adolescents – Mental Health and Personality*. University of Gothenburg, Department of Psychology.
- Frida Lyngnegård (2018). *Participation in and outside school: Self-ratings by Swedish adolescents with and without impairments and long-term health conditions*. Jönköping University, School of Health and Welfare.

⁷ At the Department of Psychology (GU), all PhD candidates produce defend their licentiate thesis instead of having a mid-term seminar. This applied to KB and JMH.

- Sabina Kapetanovic (2019). *Mutual actions – Developmental links between aspects of the parent-adolescent relationship and adolescent risk behaviors*. Jönköping University, School of Health and Welfare.
- Johan Melander Hagborg (2020). *Child maltreatment among young adolescents - effects on mental health, academic functioning, and substance use*. University of Gothenburg, Department of Psychology.
- Russell Turner (2020). *Teenage kicks the differential development of drug use, drunkenness, and criminal behaviour in early to mid-adolescence*. University of Gothenburg, Department of Social Work.

In addition, the dissertation defence of Olov Aronson (JU) is planned for September 2021. Later, Torbjörn Kalin (JU) will follow. His mid-term seminar is planned for 2021. A ninth doctoral candidate is seeking financial support for studies on LoRDIA data.

Publications in numbers

LoRDIA has resulted in 181 publications so far, including

- 8 dissertations (6 PhD, the above, and 2 licentiate),
- 37 research papers (27 published or accepted articles in peer reviewed journals, 9 pending such, and 1 book chapter),
- 26 student theses (10 on master level and 16 on candidate level),
- 36 research conference presentations (24 international, 9 Nordic or national, and 3 regional),
- 33 popular or practitioner conference presentations (1 international, 12 Nordic or national, and 20 regional or local),
- 14 articles (not peer reviewed),
- 12 you-tube and podcast presentations,
- and 15 reports.

Research findings

Here, we will give brief presentations of the findings of the research papers. For full references, see the reference list at the end.

Studies on adolescent substance use and related factors

Ander B, Fransson E, Bergnehr D, Gerdner A (2020). Onset in the use of tobacco, alcohol, and drugs in early adolescence.

This study investigates the onset of substance use in early adolescence among 13- and 14-year-old girls and boys in the south of South Sweden—prevalence, age of onset, and factors associated with the early onset of the use of tobacco, alcohol-drinking, alcohol-drunkenness, and drugs. At this age, there were few gender differences and a low prevalence of substance use. The primary

predictor of tobacco use was access to tobacco; for alcohol-drinking, it was perceived parental approval. For alcohol-drunkenness and drug use, delinquent behaviour was the primary predictor. At ages 13 and 14, family factors showed stronger associations with onset than peer factors.

Ander B, Bergnehr D, Fransson E, Gerdner A (2018). Where and with whom – contexts of 15-year-olds' drunkenness.

The study investigates where and with whom students in grade 9 drink alcohol to drunkenness and how various arenas are related to frequency of drinking, perceived parental approval, peer behaviour and negative outcomes as reported by the students. The study shows that the most common places for adolescent drunkenness are places without adults present and in the company of same age peers. There were few significant differences between girls and boys regarding where and with whom. Drunkenness in homes is generally not less problematic compared to outdoor drinking. This has implications for outreach social workers.

Boson K, Berglund K, Wennberg P, Fahlke C (2016). Well-Being, Mental Health Problems, and Alcohol Experiences Among Young Swedish Adolescents: A General Population Study.

The study investigates patterns of self-reported emotional and behavioural problems and self-rated well-being in relation to alcohol experiences among Swedish girls and boys in early adolescence by means of person-oriented analyses. Externalizing problems, in contrast to internalizing problems, occurred more commonly in adolescents who reported a high degree of well-being. Girls with low well-being and mental health problems were overrepresented among those with alcohol experiences. Findings suggest that gender and positive psychology perspectives should be considered when describing and explaining mental health among adolescents, especially adolescents with an early alcohol debut.

Boson K, Wennberg P, Fahlke C, Berglund K (2019). Personality traits as predictors of early alcohol inebriation among young adolescents: Mediating effects by mental health and gender-specific patterns.

The study predicts alcohol inebriation and mental health (internalizing and externalizing problems and well-being), and potential gender-specific patterns among young adolescents (13-15 yrs old). Novelty Seeking and Cooperativeness had independent effects on alcohol inebriation for both genders as well as Harm Avoidance among girls and Internalizing problems among boys. Novelty Seeking and Self-Directedness had indirect effects through externalizing problems and Harm Avoidance and Self-Directedness had indirect effects through internalizing problems for boys. Self-directedness showed an indirect effect through externalizing problems for girls. The combination of an immature character (low Self-directedness and Cooperativeness) with an extreme temperament profile (high Novelty Seeking and low Harm Avoidance) was a predictor of inebriation across gender, both directly and indirectly through mental health.

Studies on delinquency and related behavioural patterns

Turner R, Daneback K, Skårner A (2018). Assessing reciprocal association between drunkenness, drug use, and delinquency during adolescence: Separating within- and between-person effects.

Longitudinal links between binge drinking, drug use, and criminal behaviour during adolescence are understudied. Furthermore, there are no studies that attempt to separate *within-person* variance from the *between-person* variance, which is needed to better understand development at the individual level. The variance between individuals, in terms of the longitudinal development of binge drinking, drug use, and criminal behaviour, is greater than hitherto found. Furthermore, it is different for the different behaviours. More importantly, however, the links between these behaviours at the individual level are weak or non-existent. The longitudinal development at the individual level was strongest for the development of criminal behaviour from grades 8 to 9, and from criminal behaviour in year 8 to substance use a year later but not vice versa.

Turner R, Daneback K, Skårner A (2020). Explaining trajectories of adolescent drunkenness, drug use, and criminality: A latent transition analysis with socio-ecological covariates.

There is a gap in knowledge as to why some young people follow one trajectory in terms of substance use and criminal behaviour, and why other young people follow another. There is a need for knowledge about which socioecological factors are associated with different developmental pathways. Four latent classes (i.e. pathways) were found, for example, adolescents with more irregular involvement in substance use/criminality versus a much smaller group with more frequent involvement in such behaviours. Factors such as friends' behaviour, family cohesion, and personality had *differential* impacts on these four different pathways. The development of these behaviours during adolescence is more varied than previous research has shown and there are probably different mechanisms for these different trajectories.

Turner R (2021). Getting real about youth substance use and crime: how 'realistic' theories can improve knowledge and understanding for practice.

Many systematic reviews show that prevention programmes in terms of adolescent substance use and crime have poor results. This has been associated with a need to develop the original theories that underpin much of today's prevention practice. Supported by critical realist philosophy of science, a framework for how prevention theories could be developed is described. Using this framework, two influential prevention theories – the social development model and problem behaviour theory – are examined. It is shown how these theories can be developed, especially with regard to young people's agency in relation to different socioecological contexts. The study also highlights the need for greater reflexivity around the role of normative moral beliefs in theory development for prevention practice.

Turner R (2020, in review). Personality, parents or peers? The differential development of teenage drunkenness, drug use, and criminal behaviour: a multi-level exploration using socio-ecological covariates.

Typical adolescent ‘risk’ behaviours, such as substance use and criminal behaviour, may have different developmental trajectories. It is important for prevention and harm minimisation programmes to tailor not just for behaviour-specific trajectories, but also to understand the mechanisms of potential differential development using a broader socio-ecological model. Separate random-effects models of the development of drunkenness, drug use, and criminality in adolescence showed heterogeneity between adolescents in how these behaviours develop. Growth in these behaviours tended to be low and stable at a within-person level. Socio-ecological covariates representing individual, family, and peer level factors were differentially relevant for the explanation of growth patterns, albeit with family cohesion being most relevant for all three behaviours. The effects for the covariates were however weak.

Studies on family communication patterns and adolescent risk behaviours

Kapetanovic S, Bohlin M, Skoog T, Gerdner A (2020; on-line 2017): Structural relations between sources of parental knowledge, feelings of being overly controlled and risk behaviors in early adolescence.

The study examined relations between parental knowledge and sources thereof, adolescent feelings of being overly controlled, and the relations of these to adolescent risk behaviours in early adolescence. Adolescent disclosure and parental control were positively associated with parental knowledge, which in turn related to all three risk behaviours. Adolescent disclosure was related to lower levels of risk behaviours, while parental solicitation was linked to higher levels of adolescent engagement in risk behaviours, especially for boys, through feelings of being overly controlled. Open communication between parents and adolescents, where adolescents willingly share information about their activities, may give parents opportunity to give advice and guidance in a way which adolescents do not perceive as intrusive. When adolescents perceive too strict parental control, that may provoke more, instead of less, engagement in risk behaviours. Being explicit and clear about one’s rules and values at the same time as maintaining open and respectful communication, may be an adequate way for parents to support healthy development throughout adolescence.

Kapetanovic S, Skoog T, Bohlin M, Gerdner A (2019, on-line 2018). Aspects of the Parent–Adolescent Relationship and Associations with Adolescent Risk Behaviors Over Time.

Parents’ actions and knowledge of adolescents’ whereabouts play key roles in preventing risk behaviours in early adolescence, but what enables parents to know about their adolescents’ activities and what links there are to adolescent risk behaviours, such as substance use and delinquent behaviour, remain unclear. In this study we investigated the direct and indirect longitudinal associations between these aspects of the parent-adolescent relationship and adolescents’ self-reported delinquent behaviour and substance use. The results showed that parenting competence and adolescents’ connectedness to parents were indirectly, through

adolescent disclosure and parental solicitation and parental control, associated with substance use and delinquent behaviour. Parental confidence in parenting as well as emotional connectedness between parents and adolescents are associated with less likelihood of risk behaviour, specifically delinquency and substance use. Strengthening parents' trust in themselves and in their relationship with their adolescent children may enhance open communication between parents and adolescents. When open communication is established, parents may have better opportunities to protect their adolescents from engagement in risk behaviours without being intrusive.

Kapetanovic S, Boele S, Skoog T (2019). Parent-Adolescent Communication and Adolescent Delinquency: Unraveling Within-Family Processes from Between-Family Differences.

Understanding the factors that predict adolescent delinquency is a key topic in parenting research. An open question is whether prior results indicating relative differences between families reflect the dynamic processes occurring within families. Therefore, this study investigated concurrent and lagged associations among parental behavioural control, parental solicitation, adolescent disclosure, and adolescent delinquency by separating between-family and within-family effects in three-wave annual data from LoRDIA. The within-family results revealed that adolescent disclosure and delinquency, and adolescent disclosure and parental solicitation, reciprocally predicted each other. Parental solicitation negatively predicted parental behavioural control. In terms of implications for practices, the current findings shed new light on how families differ from each other regarding parent-adolescent interactions (between-family effect) by showing in which families adolescents are at risk for engaging in more delinquency. Importantly, the findings can be used to help unravel how parent- and adolescent-driven communication efforts and adolescent delinquency operate within individual families over time (within-family effect). This is an important first step in identifying the causal processes in parent-adolescent interactions and adolescent development.

Kapetanovic S, Skoog T, Bohlin M, Gerdner A (2020). Does one Size Fit All? — Linking Parenting with Adolescent Substance Use and Adolescent Temperament.

Adolescent temperament and parent-adolescent communication are critical factors in adolescent substance use development. However, to date, there are no studies focusing on the moderating role of adolescent temperament on the link among parental knowledge, its sources and adolescent substance use. Our findings show that when parents have information about what their adolescents do, they can protect their adolescents from substance use involvement. We suggest that responsive and warm parenting is the most beneficial for the psychosocial development of adolescents with temperament that involves risk behavior tendencies. When open communication between parents and their adolescents is established, adolescents engage in less substance use over time. This finding particularly applies to adolescents with problematic temperament profiles such as the fearless and socially detached, and the unstable temperament profile. Indeed, questioning and supervising of adolescents who are fearless and socially detached seems to increase oppositional behavior in these adolescents. They then engage more and not less in substance use. The practical implications of the current findings may involve tailoring parenting programs to have a greater focus on the different predispositions of adolescents in order to

recognize which parenting practices would provide the most benefits for healthy psychosocial development in adolescents.

Kapetanovic S, Skoog T (2020). The Role of the Family's Emotional Climate in the Links between Parent-Adolescent Communication and Adolescent Psychosocial functioning.

This study extends our understanding of the role played by a family's emotional climate – in the perspective of the adolescent – for the longitudinal associations between parent-driven communication efforts (i.e. parental behavioural control and solicitation), adolescent-driven communication efforts (i.e. adolescent disclosure and secrecy) and adolescent psychosocial functioning (i.e. emotional problems, conduct problems, delinquency and wellbeing). Our findings suggest that the effect of parent-driven communication efforts (i.e. parental solicitation and behavioural control) on adolescent psychosocial functioning is not isolated from the context of the family's emotional climate. When used within the context of a family's positive emotional climate, parents' questions and requests for information are protective against adolescent externalizing problems over time. On the other hand, parents' rules and behavioural expectations are disadvantageous for adolescent behavioural development when used within the context of a family's poor emotional climate. In addition, adolescent-driven communication efforts have an effect on adolescent developmental outcomes regardless of the state of adolescents' perceptions of the family's emotional climate. The findings in the current study underpin the importance of considering the context of a family's emotional climate when providing recommendations to parents and in parenting programs.

Kapetanovic T, Boson K (2020). Discrepancies in Parents' and Adolescents' Reports on Parent-Adolescent Communication and Associations to Adolescents' Psychological Health.

Parental knowledge of adolescents' whereabouts is central for healthy adolescent development. However, parents and their adolescent children often perceive parenting practices differently. Our findings provide evidence that parent-adolescent reporting discrepancies provide unique and valuable information on how we can understand the development of adolescent psychological health. Discrepant views on parental knowledge, and parental solicitation and adolescent disclosure in particular, relate to poorer psychological health and a lower sense of well-being in adolescents over time. Practitioners working with families need to consider the informant's perceptions of their parent-adolescent relationships and interactions in terms of understanding adolescent psychological functioning.

Studies on adolescents with impairments and long-term health conditions

Lyngegård F, Granlund M, Kapetanovic S, Augustine L (2020). Short-term longitudinal participation trajectories related to domestic life and peer relations for adolescents with and without self-reported neurodevelopmental impairments.

With maturity and development, complexity in demands and roles change. As participation is

often restricted in children with disabilities, this process might be delayed in adolescents. Investigating profiles of participation for adolescents with and without neurodevelopmental impairments could provide an understanding of which factors relate to high level of participation. The study investigates trajectories of participation in everyday activities across clusters based on self-rated participation patterns in frequency of participation and perceived importance of activities related to domestic life and peer-related activities for adolescents with and without self-reported neurodevelopmental impairments. From a prospective person-based cohort study design, five typical trajectories were identified. Trajectories between clusters with high perceived involvement in peer relations were associated with sibling support and family communication. Self-reported neurodevelopmental impairments did not predict participation profiles at certain time points, nor movements between clusters when measuring self-reported attendance and importance in domestic life and in peer-related activities. Perceived sibling support and family communication are important for predicting typical trajectories across clusters in frequency of attendance and the perceived importance of domestic life and peer relations. Type of impairment was less important in predicting typical trajectories.

Carlberg L, Granlund M (2019). Achievement and participation in schools for young adolescents with self-reported neuropsychiatric disabilities: A cross-sectional study from the southern part of Sweden.

Schools are expected to be an environment where children can reach their fullest potential and develop their talents, personality, as well as their mental and physical abilities. Children with disabilities often have restricted participation and lower achievement in school. The study investigated if differences in participation and achievement in school between adolescents, with and without self-reported neuropsychiatric disabilities, and explored the relations between achievement and participation. Having a self-reported neuropsychiatric disability increases the likelihood of having restricted participation and lower achievement in school. These adolescents were also more likely to have negative relationships to their teachers, be bullied, have poorer connectedness to their parents, come from families with less money, be trying drugs and be male, in comparison to the adolescents without a neuropsychiatric disability. The odds of having lower achievement increased with lower engagement and absenteeism from class. Thus, adolescents with self-reported neuropsychiatric disabilities have a disadvantaged situation in school, and are exposed to factors that could have long-term negative effects. More longitudinal research is required to conclude what factors are causing restricted participation and low achievement.

Møller Christensen B, Björk M, Almqvist L, Huus K (2019). Patterns of support to adolescents related to disability, family situation, harassment, and economy.

Adolescents need support from family, friends, and teachers to increase their involvement in everyday life. Their environment and their own characteristics also influence their ability to participate in an everyday supportive environment. This study investigated patterns of support from parents, teachers, and very important persons such as peers to the ability of adolescents to participate in everyday life, as well as the importance of interpersonal relations as experienced by the adolescents. Adolescents with a complicated home situation and low economic prerequisites who received little support from parents and friends participated to a lower degree in home activities. A substantial number of these adolescents had self-reported neurodevelopmental disorders and, as a group, were more often exposed to harassment. However, these adolescents participated to a higher extent in school activities, although they received little support from the

teachers. The adolescents who received most support from parents and teachers were those with a country of origin other than Sweden and those who lived with both of their parents and had more siblings than average. However, they did not participate more in home and school activities.

Lyngegård F, Augustine L, Granlund M, Kåreholt I, Huus K (2018). Factors Associated with Participation and Change Over Time in Domestic Life, Peer Relations, and School for Adolescents With and Without Self-Reported Neurodevelopmental Disorders.

Adolescents with neurodevelopmental disorders (NDD) often face participation restrictions in every-day activities. Few studies have investigated the predictors for participation in different contexts, over time and in relation to the same outcome variables. The study investigates predictors of change in participation operationalized as frequency of attendance and perceived importance in domestic life activities, peer related activities, and school activities as experienced by adolescents with and without self-reported neurodevelopmental disorders. Three key findings are presented: First, more factors were associated with participation outcomes at time1 for adolescents without NDD than for adolescents with NDD, but this difference in the number of factors decreases with time. Second, few associations were related to time for both adolescents with and without NDD; and third, patterns of predicting variables were different for adolescents with and without NDD.

Lyngegård F, Almqvist L, Granlund M, Huus K (2018): Participation profiles in domestic life and peer relations as experienced by adolescents with and without impairments and long-term health conditions.

The study investigates how individual and environmental factors relate to self-reported participation profiles in adolescents with and without impairments or long-term health conditions. From a person-oriented approach (hierarchical cluster analysis) we identified cluster groups of individuals sharing participation patterns in the outcome variables frequency perceived importance in domestic life and peer relations. A nine-cluster solution was chosen. All clusters included adolescents with impairment and long-term health conditions. Perceived importance of peer relations was more important than frequent attendance in domestic-life activities. Frequency of participation in dialogues and family interaction patterns seemed to affect the participation profiles more than factors related to body functions. Type of impairment or long-term health condition is a weaker determinant of membership in clusters depicting frequency and perceived importance in domestic life or peer relations than dialogue and family environment.

Studies on peer harassment

Skoog T, Kapetanovic S (2020). The Role of Relational Support in the Longitudinal Links Between Adolescent Sexual Harassment Victimization and Psychological Health.

The links between sexual harassment victimization and aspects of psychopathology are well-established in adolescent research, but whether sexual harassment victimization undermines positive aspects of psychological health and the moderating role of relational support in the link

between sexual harassment victimization and psychological ill-health have until this date remained unknown. Using a cross-lagged model, we examined: (1) the bidirectional and longitudinal links between sexual harassment victimization and adolescent psychological health (emotional problems and well-being); and (2) the moderating role of relational support from parents, teachers, and peers (best friends and classmates) in the link between sexual harassment victimization and adolescent psychological health. Controlling for the effect of gender and SES, the cross-lagged model revealed that sexual harassment predicted emotional problems positively and well-being negatively. Moreover, well-being predicted sexual harassment negatively. Relational support from classmates moderated the link in the direction from sexual harassment victimization to emotional problems. Relational support did not moderate the link to well-being. The findings provide new and important insights into the role of sexual harassment victimization in adolescent psychological adjustment and potential approaches to intervention.

Skoog T, Kapetanovic S (2021). The Role of Pubertal Timing in the Development of Peer Victimization and Offending from Early- to Mid-Adolescence.

Early puberty is a well-known risk factor in adolescent psychosocial development. In this study, we used latent growth curve analysis to extend research on associations between early puberty and adverse peer relations by examining the role of pubertal timing in the developmental trajectories of peer victimization and offending from early- to mid-adolescence. The results revealed negative developmental trends for peer victimization and offending. Early pubertal timing was linked to higher initial levels and a steeper decrease of peer victimization and offending. The only effect of pubertal timing that differed between the genders was that the initial level of offending was stronger for boys than girls. In conclusion, the negative impact of early pubertal timing on peer victimization and offending appears to occur in the early stages of adolescence and disappear thereafter.

Bjereld Y, Turner R, Augustine L (Manuscript). Does disability matter for bullying and mental health in adolescence – a random-intercept cross-lagged panel model.

There is a gap in research gaps concerning how having a disability interacts with the development of bullying and mental health problems during adolescence. In particular, there are few studies that look at this issue at the individual level. Children with disabilities had increased risk of both being bullied and having emotional problems. The effect remains but becomes slightly weaker in later adolescence. At the individual level, there was no correlation between emotional problems and bullying two years later, despite the fact that there were strong co-variations within the same time period.

Studies on adolescents of different cultures and integration

Aronson O, Bergnehr D, Wells M (2020, in review). Supportive parents contribute to more inter-origin friendships among adolescents: A longitudinal study.

Adolescents with more supportive and less conflictual relationships with parents are likely to form friendships more easily, but knowledge is needed about the implications of supportive and conflictual parent-child relationships for adolescents' friendships with peers of different origins (inter-origin friendships). Using a longitudinal approach, the present study tests the hypothesis that inter-origin friendships are more easily formed when adolescents have more supportive and less conflictual parent-child relationships. The results indicated that inter-origin friendships became more likely when the adolescents had more supportive and less conflictual parent-child relationships. This association could in part be explained by reduced uncertainty and anxiety, since reduced uncertainty and anxiety in unfamiliar situations was correlated with a larger number of inter-origin friendships as well as with more supportive and less conflictual parent-child relationships.

Aronson O, Gerdner A (2020). Youth centers, structured leisure activities, and friends of native and foreign origin: A two-wave longitudinal study.

The social integration of adolescents of foreign origin is of much importance to contemporary Swedish politics, and knowledge is needed about the associations between different forms of leisure and social integration. The present study tests the associations between visits to youth centers and participation in structured leisure activities, on the one hand, and having friends regardless of origin, of native origin, and of foreign origin, on the other. Visits to youth centers positively predicted the number of friends of foreign origin, while participation in structured leisure activities positively predicted the number of friends regardless of origin. In conclusion, structured leisure activities appear better than youth centers for promoting the social integration of adolescents of foreign origin into networks of friends of different origins.

Aronson O (2020, in review). Digital leisure and intercultural friendship formation: A two-wave longitudinal study of Swedish adolescents.

Sweden is a largely digitalized and culturally diverse country, where the integration of cultural minorities in the friendship networks of the cultural majority is a conspicuous challenge. The present study analyzes the associations between digital leisure and intercultural friendship formation through a longitudinal design, and it focuses on three forms of digital leisure: online communication, video watching, and digital gaming. The results suggest that adolescents in the cultural majority use digital leisure to “seek out” friends of different cultures, while adolescents in cultural minorities more often use digital leisure to “geek out” and form fewer intercultural friendships. Thus, digital leisure can have equivocal implications for the integration of cultural minorities in the friendship networks of the cultural majority.

Gerdner A, Kapetanovic S (2020). Adolescents raised under honor culture norms in a modern welfare state – Parental control of adolescents’ romantic relations and sexuality.

Honor cultural norms – characterized by parental and extended family control of adolescents’ romantic relations and sexuality – are mostly discussed in relation to societies in the Middle East, Africa, and Asia, or in regards to immigrants from such societies living as minorities in Western countries. However, the existence of these norms is also evident in Western contexts, such as Sweden, yet it is still unknown how widespread such norms are, and what the characteristics of these families are. We identified honor cultural norms based on adolescents’ ratings of parental control of romantic life and sexuality, parents’ and extended family’s control of marriage, and parental distancing from those who do not follow the norms. Contrary to widespread beliefs, honor cultural norms are not limited to ethnic or religious minorities. These norms are indicative of poor family relations and dysfunctional parent-child relations.

Studies on childhood abuse and neglect

Melander Hagborg J, Berglund K, Fahlke C (2017). Evidence for a relationship between child maltreatment and absenteeism.

School absenteeism is a potent predictor of academic failure. Maltreated adolescents have been found to be more absent from school compared to their peers. However, it is scarcely studied in what degree a general population of students with high levels of school absenteeism has been exposed to child maltreatment. Furthermore, it is not known if maltreated school-absentees have specific characteristics compared to not-maltreated absentees. In this article, we present and compare the prevalence of six types of child maltreatment in a general population of high school students reporting no, moderate, or excessive absenteeism. Then we compare maltreated and not-maltreated students who report absenteeism in respect to mental health, perceived school environment and peer victimization in school. All six types of child maltreatment were overrepresented among absentees. Roughly 25 % of absentees reported one subtype of maltreatment (16 % in the total population) and a mean of 22 % of absentees reported two or more types of maltreatment (11% in the total population). Maltreated absentees reported more mental health problems, personal harassment, and worse relationship with their teachers than not-maltreated absentees. There might be specific correlates of school absenteeism among maltreated adolescents and professionals involved in preventing school-absenteeism should be made aware of the relationship between maltreatment and absenteeism.

Melander Hagborg J, Tidefors I, Fahlke C (2017). Gender differences in the association between emotional maltreatment with mental, emotional, and behavioral problems in Swedish adolescents.

The study examines the effect of emotional maltreatment on mental health and mental well-being in a general population of Swedish 12- to 13-year old girls and boys. Emotional maltreatment had significant effects on mental health and mental well-being for both girls and boys. Moreover,

there were significant interaction effects between gender and levels of emotional maltreatment. Girls reported decreased mental health and mental well-being at lower degrees of emotional maltreatment compared to boys. Furthermore, girls reported larger decreases in mental health in response to exposure of emotional maltreatment. For internalizing symptoms, mental well-being and psychosomatic symptoms, exposure level of emotional maltreatment seemed to magnify the gender differences. For externalizing symptoms, there were no differences between girls and boys in the group reporting no emotional maltreatment and the increase in externalizing symptoms were of equal magnitude for both genders. Given the impact of emotional maltreatment on mental health in the general population, results from this study implies that a trauma-informed perspective is necessary in understanding gender differences in mental health in early adolescence. Further research is needed to understand the underlying processes generating the differences in girls' and boys' responses to emotional maltreatment.

Melander Hagborg J, Thorvaldsson V, Fahlke C (2020). Child maltreatment and substance-use-related negative consequences: Longitudinal trajectories from early to mid-adolescence.

Child maltreatment is associated with adult substance use disorders (i.e. alcohol and/or illicit drug use). Little is known about the behavioral pathways characterizing adolescent substance users who were subjected to childhood maltreatment. Here, we investigate the longitudinal trajectories of substance-use-related negative consequences (SURNCs) in adolescence in relation to childhood maltreatment. Children experiencing multiple maltreatment displayed a greater increase in the frequency of SURNCs during the transition from early to mid-adolescence than did those reporting no maltreatment. These estimates were only partly influenced by the inclusion of frequency of alcohol and substance drug use to the model. These findings imply that children suffering maltreatment are at a higher risk of experiencing SURNCs, a factor known to elevate the risk of substance use disorders later in life, as they transition from early to mid-adolescence.

Kalin T, Ahlgren T (Manuscript). Low levels of participation in structured leisure-time activities among emotionally neglected children.

Participation in structured leisure activities has been shown in several previous studies to be a protective factor against negative development in the form of mental illness, behavioural problems, and trauma symptoms in victims of violence. They also seem to be bracing for school participation and mental development. At the same time, unstructured leisure activities is a risk factor that drives a negative development in the form of criminal behaviour and behavioural problems. It has been theorised the level of structure with adult presence are the driving factors in the differing outcomes of these leisure activities. Children who experienced emotional abuse and neglect could be particularly helped by building trusting relationships with other adults outside the home. However, no Swedish studies investigated participation in structured leisure activities in relation to child adverse experiences. The findings of this study show that children who with severe early adverse experiences of emotional neglect to a lesser extent than other children participate in structured leisure activities over time. For children who have serious early

experiences of emotional abuse, there are no statistically significant differences. Participation in unstructured leisure activities does not differ based on experiences of emotional abuse or neglect.

Studies on children at risk and their contact with social welfare

Ahlgren T, Kalin T, Gerdner A (2021). Self-rated child maltreatment, behavioural problems, and contacts with welfare and police authorities – longitudinal community data.

The study examines how children report abuse, neglect and behavioural problems and what authorities they claim to have had contact with that are legally mandated to report to the Child Welfare Services, e.g. health services and police. Four data collections followed adolescents' development from 12 to 15 years (n=1884). A total of 61 indicators of self-reported child abuse, neglect and behavioural problems were constructed to identify children with severe exposure so that each indicator would have prompted referral. The main finding is that 445 (25.3 %) of the study population reported severe exposure of this magnitude. Among these self-reported severely exposed children (SSE), boys reported higher rates of child neglect and of overall behavioural problems, specifically criminal and other socially destructive behaviour. Poverty and living in single-parent households significantly increase the risk of abuse, neglect, and behavioural problems. Increased risk of neglect and criminal behaviour were found for children studying Swedish as second language. The SSE children more than other children report contact with all authorities with mandatory reporting. Odds ratios of contact were higher in the case of behavioural problems compared to the odds ratios for abuse and neglect.

Kalin T, Ahlgren T, Persdotter B, Gerdner A (2020, in review). How do Child Welfare Referrals match the self-reports of Severely Exposed Children in Sweden?

Child welfare services rely on referrals from authorities and civilians to address child maltreatment and behavioural problems. To our knowledge, no prior studies on referrals have controlled for children's own experiences of severe exposure to child maltreatment and/or behavioural problems. This study follows a Swedish community sample of 1884 children. Of 1760 who participated in self-ratings, 445 matched criteria for severe exposure to child maltreatment and behavioural problems. Only 169 of these severely exposed children were referred to the child welfare services during their adolescence. In total, 389 children of the study population were referred. Severely exposed children were more likely to be referred than other children when several background factors were adjusted for. Children who did not experience severe exposure, but lived in single-parent families, teenage parent families, poor families, or immigrant families were more likely to be referred to the child welfare services than other children. The findings are discussed from a children's rights perspective and inequity in relation to social work practice. In conclusion, although the referral rates are high, many children who are severely exposed to child maltreatment and behavioural problems remain undetected.

Methodological studies

Augustine L, Lyngnegård F, Granlund M, Adolfsson M (2018): Linking youths' mental, psychosocial, and emotional functioning to ICF-CY: lessons learned.

Linking ready-made questionnaires to codes within the International Classification of Functioning, Disability and Health, Children and Youth Version (ICF-CY) with the intention of using the information statistically for studying mental health problems can pose several challenges. Many of the constructs measured are latent, and therefore, difficult to describe in single codes. This study describes and discusses challenges encountered in this coding process. Including the original aim of the questionnaire into the coding process was found to be very important for managing the coding of the latent constructs of the items. Items from the ICF-CY chapters with narrow definitions, for example mental functions, were more easily translated to meaningful concepts to code, while broadly defined chapters, such as interactions and relationships, were more difficult. This study stresses the importance of a clear, predefined coding scheme as well as the importance of not relying too heavily on common linking rules, especially in cases when it is not possible to use multiple codes for a single item.

Augustine L, Lyngnegård F, Adolfsson M & Granlund M (2021). The utility of the International Classification of Functioning construct as a statistical tool – operationalizing mental health as an indicator of adolescent participation

The study tests the statistical utility of the International Classification of Functioning (ICF) classification in coding adolescent mental health and mental health problems. A factorial solution could be found for most chapters indicating that the ICF framework and coding system could be used; however, the variance explained was quite low. Linking worked better at code-level, rather than chapter level. Items measuring risk behaviour or risk factors are loaded in separate constructs. When coding items for statistical purposes, code-level rather than chapter level is to be preferred. Also, participation in risk behaviour loads in separate factors indicating that these behaviours are separate from other types of participation. Considering some challenges with varying level of detail in the ICF-CY's chapters, the framework can be used to identify the content of mental health questionnaires to be used in rehabilitation. To provide more detailed information in rehabilitation addressing mental health, a code-level solution is more appropriate than a chapter level solution. Despite the use of same ICF-CY codes, negative participation, i.e., risk behaviour, measures a different dimension than positive participation, is especially relevant in rehabilitation addressing mental health.

Boson K, Brändström S, Sigvardsson S (2017). The Junior Temperament and Character Inventory (JTCI): Psychometric Properties of Multi-Informant Ratings.

The study establishes norms for the Swedish child self-report and caregiver rating versions of the Junior and Temperament Character Inventory (JTCI) among young adolescents, investigates its psychometric properties, and investigates congruence between children's self-reports and

caregivers' ratings of a child's personality. The sample was a general population of 1,046 children ages 12–14 years and 654 caregivers. The JTCI was found to be reliable on all dimensions except Persistence in the child self-report version. Caregivers rated their own children's personalities as more mature than did the children themselves. Caregivers especially overestimated their daughters' self-reported capabilities for self-acceptance and self-efficacy and might have underestimated their daughters' need for emotional support. This highlights the importance of including the child's self-report on personality in both research and clinical assessments. The results also support the importance of age- and gender-separated norms.

Melander Hagborg J, Kalin T, Gerdner A (2020, in review). CTQ-SF used with adolescents – methodological reports from clinical and community samples.

The Childhood Trauma Questionnaire — Short Form (CTQ-SF) is a widely used retrospective screening tool for childhood maltreatment in adults. However, the acceptability and psychometric properties when used in adolescents are not well known. A community sample (n=1884) in four waves (from 13-14 to 17 years old) and a clinical sample (n=74, mean age 18), both from Sweden, were used to assess acceptability and different aspects of validity and reliability. The CTQ is well accepted and can be trusted to provide consistent and valid self-reports from the age of 14 on childhood maltreatment. Some caution is advised when used with younger adolescents, since the test-retest stability is then weaker, and the interpretation of the M/D scale is more ambiguous.

Other studies

Forkby T, Turner R, Alstam K (2020). *Den strukturerade fritiden – en möjlighet till lärande för livet?* [The structured leisure time – an opportunity for learning for life?]

It is unclear how structured leisure activities contribute to the development of young people's criminal behaviour. There are few studies that look at the contribution that structured leisure makes over and above other known protective factors. Structured leisure time had no connection to reduced criminal behaviour a year later. On the other hand, it had links to increased school satisfaction and fewer internalising problems a year later.

In conclusion

LoRDIA contributed to new findings concerning e.g. related factors of early adolescent alcohol use, trajectories of adolescent delinquency and substance misuse, family factors as mediators of risk behaviours, patterns and trajectories of participation of disabled adolescents, longitudinal patterns of sexual harassment and preventive factors, impact of leisure activities on inter-cultural friendship, adolescents raised under honour culture norms, impact of childhood maltreatment on mental health, child welfare's contact with children at risk, validation of instruments used with adolescents.

Dissemination of results

Team members, especially the doctoral candidates, have been active in disseminating the results in research conferences, practitioner conferences and to the public, on international level, on Nordic or national levels, and on regional or municipal levels.

Research conferences

International research conferences

Two oral presentations at the 17th Biennial Conference of the *European Association for Research on Adolescence (EARA)*, September 2-5, 2020, Porto, Portugal:

Kapetanovic S & Skoog T: ‘The Role of Family Emotional Climate in the Links between Parent-Adolescent Communication and Adolescent Psychological Problems.’

Skoog T & Kapetanovic S: ‘The Role of Pubertal Timing in the Development of Adolescent Peer Victimization and Offending.’

At the XVI Biennial Meeting - Nurturing adolescent growth, organized by the *European Association of Research on Adolescence (EARA)*, September 12-18, 2018, Ghent, Belgium, a symposium was devoted to the LoRDIA programme chaired by Therese Skoog, “Multiple aspects of challenge to adolescent growth: Presentations from the Swedish LoRDIA project”. It had the following four oral presentations:

Turner R: ‘Re-thinking ‘risk’ in the context of nurturing adolescent growth – What can we learn from reciprocal associations between traditional teenage ‘risk’ behaviours?’

Boson K: ‘Predicting alcohol use and inebriation through mental health problems, well-being and personality dimensions among young adolescents.’

Kapetanovic S: ‘Bidirectional Links between Adolescent Disclosure, Parental Solicitation, Parental Control and Adolescent Delinquency.’

Melander Hagborg J: ‘Child Maltreatment and School Absenteeism.’

Presentation at XV Biennial conference, *European Association for Research on Adolescence (EARA)*, September 16-19, 2016, La Barrosa, Cádiz, Spain.

Boson K: ‘The Swedish Version of Junior Temperament and Character Inventory (JTIC): Psychometric Properties of Children’s Self-Report and Caregivers’ Rating.’

Kapetanovic S: ‘Capturing parental knowledge and adolescent risk behaviour.’

Turner R: ‘Kids, drugs, and delinquency: Differential patterns and developmental pathways in adolescence.’

A paper presentation was accepted for *Society for Research on Adolescence Conference*, San Diego, California, USA, in March 19-22, 2020, but the conference was canceled due to the Covid-19 pandemic.

Skoog T & Kapetanovic S: ‘The Role of Social Support in the Longitudinal Link between Adolescent Sexual Harassment and Psychological Health’.

Oral presentation at *European Conference on Developmental Psychology (ECDP)*, August 29 - September 1, 2019, Athens, Greece.

Kapetanovic S & Boson K: 'Differences in parents' and adolescents' reports on parental knowledge and longitudinal associations to adolescents' psychological problems.'

Oral presentation at the *European Conference on Developmental Psychology (ECDP)*, August 29 – 1 September, 2017, Utrecht, Netherlands.

Kapetanovic S: 'Parenting and adolescent risk behaviours.'

Oral presentation at the *International Society for Traumatic Stress Studies*, 35th annual meeting, November 14–16, 2019, Boston, Massachusetts, USA.

Melander Hagborg J (2019). 'Child Maltreatment and Alcohol Related Negative Consequences – longitudinal trajectories from early to mid-adolescence.'

Oral presentation at the *15th European Society for Traumatic Stress Studies Conference*, June 2-4, 2017, Odense, Denmark.

Melander Hagborg J: 'Gender Differences in the Association Between Emotional Maltreatment with Mental, Emotional, and Behavioral Problems in Swedish Adolescents.'

Oral presentation at *Substance Use and Addiction (SUAB) European network meeting*, June 21-23, 2018, Tilburg, Netherlands.

Turner R: 'Improving longitudinal quantitative research with adolescents – 7 lessons from LoRDIA.'

Poster presentation at the 5th World Congress in *Positive Psychology, International Positive Psychology Association (IPPA)*, July 13-17, 2017, Montreal, Canada.

Boson K: 'Emotional, Psychological and Social Well-being: The Applicability of Mental Health Continuum Short Form (MHC-SF) among Young Adolescents.'

Poster presentation at *ISBRA ESBRA World Congress on Alcohol and Alcoholism*, September 2-5, 2016, Berlin, Germany.

Boson K: 'Well-being, mental health problems, and alcohol experiences among young Swedish adolescents: a general population study.'

Oral presentation at *Nordic Alcohol and Drug Researchers' Assembly (NADRA)*, September 8-10, 2016, Helsinki, Finland.

Ander B: 'Early onset in use of alcohol, tobacco and drugs.'

Oral presentations at *Nordic Youth Research 13th Symposium (NYRIS)*, June 15-17, 2016, Trollhättan, Sweden.

Ander B: 'Early onset in use of alcohol, tobacco and drugs.'

Ander B: 'The importance of place for adolescent binge drinking.'

Lygnegård F: 'Involving Students with Intellectual Disabilities in a Longitudinal Study - Experiences from the Swedish Research Programme LoRDIA.'

Kapetanovic S: 'Structural relationships between parental knowledge and adolescent risk behaviors.'

Paper presentation at *The European Association for Personality Psychology (EAPP)*, July 19-23, 2016, Timisoara, Romania.

Boson K: 'The Swedish Version of Junior Temperament and Character Inventory (JTCl) – Psychometric Properties of Children's Self-Report and Caregivers' Rating.'

Oral presentation at 42nd Annual Alcohol Epidemiology Symposium of the *Kettil Bruun Society (KBS)*, May 30 – June 3, 2016, Stockholm, Sweden.

Boson K: 'Well-being, mental health problems, and alcohol experiences among young Swedish adolescents: a general population study.'

Nordic or national research conferences

Paper presented at *Nordic Migration Research Conference, REMESO*, Norrköping, 15-17 August, 2018.

Aronsson O: 'Predicting young immigrants' native friends, immigrant friends, and social interactions: A short-term longitudinal study.'

Two on-line presentations at the *Third National Conference on Child Welfare Research*, December 1-2, 2020

Kalin T: 'Referral rates to the child welfare services. Relations between severe exposure of child maltreatment and behavioural problems and referrals to the child welfare services.'

Ahlgren T: '*Barn som är svårt utsatta enligt självskattning – övergrepp, försummelse och beteendeproblem samt förutsättningar för upptäckt.*' [Children who are severely exposed according to self-assessment – abuse, neglect and behavioural problems as well as conditions for detection.]

Online presentation at the *Research Foundation of Systembolaget*, November 27, 2020, when Sabina Kapetanovic was awarded the 'Junior Research Prize':

Kapetanovic S: '*Föräldraskap och ungas utveckling.*' [Paranthood and adolescents development.]

Presentation at *Sonad (Socialvetenskapligt nätverk inom alkohol- och drogforskning)* [Social science network in alcohol and drug research], September 17-18, 2018, Stockholm, Sweden.

Turner R: '*Re-thinking 'risk' – ungdomar, alkohol och droger. Vad kan vi lära oss från reciprok risk för alkohol- och drogbruk och kriminalitet under tonåren?*' [Young people, alcohol and drugs. What can we learn from reciprok risk of alcohol and drug use and crime during adolescence].

Presentation at *The National Paper Conference in Social Work*, 2016, Lund, Sweden.

Turner R: "'Kids, drugs, and delinquency" – Differential patterns and developmental pathways in adolescence.'

Presentation at *The Nordic Alcohol and Drug Policy Network (NordAN)*, October 15-16, 2016, Oslo, Norway.

Ander B: "I can then dance like John Travolta." Binge drinking and the importance of places.'

Presentation at *Swedish Association of Alcohol and Drug Research (SAD)*, November 26-27, 2015, Lund, Sweden.

Boson K: 'Well-being, mental health problems, and alcohol experiences among young Swedish adolescents: a general population study.'

Presentation at *Vetenskapsrådet (VR)* [The Swedish Research Council], 2014, Stockholm, Sweden.

Boson K, Skårner A & Gerdner A: 'Longitudinal Research on Development in Adolescence – LoRDIA.'

Regional or local level

Presentations at *Centre for Research and Education on Addiction (CERA)*, 2015, Gothenburg, Sweden. Conference on Psychosocial research mental health in relation to alcohol and drug use in the development from adolescents to adults.

Boson K: 'Välbefinnande, psykisk ohälsa och alkoholerfarenheter hos 12-13 åringar.' [Well-being, mental illness and alcohol experiences in 12-13 year olds.]

Turner R: 'Re-thinking "risk" kring ungdomar, alkohol, droger och kriminalitet. [Re-thinking 'risk' around youth, alcohol, drugs and crime.]

Melander Hagborg J: 'Den psykiska misshandeln påverkar den psykiska hälsan hos svenska 12-13-åringar.' [The impact of psychological maltreatment on mental health in Swedish 12-13 year olds.]

Conferences for practitioners and the public

International conference for practitioners

Oral presentation at *The World Congress for Occupational Therapists*, May 21-25, 2018, Cape Town, South Africa:

Lygnegård F.: 'Patterns of participation within domestic life and peer relations - Youth's own experiences.'

Nordic or national conferences for practitioners and the public

Presentation at *Nordiska Föreningen mot Barnmisshandel och Omsorgssvikt* [the Nordic Association against Child Abuse and Neglect], May 22-25, 2016, Stockholm, Sweden.

Melander Hagborg J: 'The impact of psychological maltreatment on mental health in Swedish 12-13-year olds.'

Oral presentations at *Nationella Mässan Förebygg.NU* [The National Fair Prevent.NOW], November 13-14, 2019, Gothenburg, Sweden. Focus track was on the LoRDIA programme: Being young – anniversary symposium on the impact of psychosocial factors on the development from child to young adult:

Gerdner A: 'Presentation of LoRDIA – Longitudinal Research on Development In Adolescence.'

Ander B: '*Ungdomars berusningsdrickande – vem, var och med vilka?*' [Young people's binge drinking – who, where and with whom?]

Aronson O: '*Social kontext och vänskap för ungdomar med invandrarbakgrund.*' [Social context and friendship for young people with an immigrant background.]

Kapetanovic S: '*Relationen mellan barn och föräldrar.*' [The relationship between children and parents, and an example from Härryda municipality].

Boson K: '*Hur hänger psykisk hälsa, personlighet och alkoholdrickande i tidiga tonår ihop?*' [How do mental health, personality and alcohol drinking in early adolescence relate?]

Turner R: '*Ungdomars riskbeteenden vad gäller alkohol, droger och kriminalitet. Var finns risken?*' [Young people's risk behaviour in terms of alcohol, drugs and crime. Where's the risk?]

Lager B & Holmstrand M: '*Från en samverkande skolas horisont. Exempel från Härryda.*' [From the horizon of a collaborative school. Example from Härryda].

Oral presentations at *Nationella Mässan Förebygg.NU* [The National Fair Prevent.NOW], November 15-16, 2017, Gothenburg, Sweden. Current research on adolescent development through the teenage years:

Turner R: '*Droger, alkohol och kriminalitet – Vad är kopplingen under tonåren?*' [Drugs, alcohol and crime – What is the connection during adolescence?]

Boson K: '*Ungdomars psykiska hälsa och personlighet. Vad kan påverka tidigt alkoholbruk?*' [Young people's mental health and personality. What can affect early alcohol use?]

Kapetanovic S: '*Föräldrar, tonåringar och tonåringars riskbeteende.*' [Parents, teenagers and teenagers' risky behaviour.]

Ander B: 'Where and with Whom? Adolescent binge drinking.'

Regional and local conference for practioneers and the public

Oral presentation for *ANDTS prevention coordinations meeting in Västra Götaland*, November 22, 2019, Gothenburg, Sweden

Turner R: 'Att förebygga ungdomars riskbeteenden vad gäller alkohol, droger och kriminalitet: Vad ska vi göra?' [Preventing young people's risk behaviour in alcohol, drugs and crime: What should we do?]

Three presentations at *Härryda municipal teachers conference*, 2016.

Ander B & Granlund M: 'Children and adolescents in Härryda municipality: Results from LoRDIA.'

Two presentations at *Härryda municipal teachers conference*, 2017.

Melander Hagborg J: 'Maltreated children - who are they and what do they need to be successful in school?'

One presentation at *Härryda child welfare services staff conference*, 2019-10-16.

Kalin, T & Ahlgren, T: 'Longitudinal research on children and youth. Findings and plans for further studies.'

One presentation at *Härryda social welfare board*, 2020-02-05.

Kalin, T & Ahlgren, T: 'Longitudinal research on children and youth. Findings and plans for further studies.'

Presentations at Conference on youth, parents and alcohol, arranged by *Systembolaget*, October 24, 2014, Malmö, Sweden.

Boson K: 'How are the tweenies?'

Presentation at *Expo Medica, Addiction Day*, 2016, Stockholm, Sweden.

Boson K: 'Adolescents' personalities - risk and protection factors connected to mental health and addiction.'

Presentation at *Expo Medica, Addiction Day*, 2017, Stockholm, Sweden.

Boson K: 'Factors affecting adolescents' living conditions; well-being, mental health and alcohol use.'

Presentation at *Research and Development North East (FoU Nordost)*, 2016, Stockholm, Sweden.

Boson K: 'Factors affecting adolescents' living conditions; wellbeing, mental health and alcohol use.'

Presentation at *University West, BUV (Barn- och ungdomsvetenskap) Conference Children and adolescents – research and practice in the same room*, 2017, Trollhättan, Sweden.

Melander Hagborg J: 'Children and adolescents with traumatic experiences - theory and practice.'

Three presentations at *Dalsland's Folk High School in Trollhättan*, at "Coffee break with researchers". Three occasions in 2016: Lysekil, Sotenäs and Trollhättan, Sweden.

Kapetanovic S: 'Let me talk with you – adolescent risk behaviour and communication with their parents.'

Presentation at *Regional Conference of Swedish Association of Alcohol and Drug Research (SAD)*, 2017, Umeå, Sweden.

Gerdner A: 'Could anyone become addicted? Addiction development, models of explanation and treatment strategies.'

Presentation at *European Researchers' Night*, 2015, Trollhättan, Sweden.

Kapetanovic S: 'What do tweenies do and how do we reach them?'

Presentation at *Researchers' Grand Prix*, 2015, Stockholm, Sweden.

Kapetanovic S: 'What do tweenies do and how do we reach them?'

Presentation at *European Researchers' Night*, 2017, Jönköping, Sweden.

Ander B: 'Where and with Whom? Adolescent binge drinking.'

Presentations at *Open Conference, APEC (Addiction Psychology Experimental and Clinical Research)* at Department of Psychology, Gothenburg University, 2017, Gothenburg, Sweden.

Melander Hagborg J: 'From child maltreatment to substance use. Explanatory models.'

Two presentations at *Open Conference, APEC (Addiction Psychology Experimental and Clinical Research)* at Department of Psychology, Gothenburg University, 2014, Gothenburg, Sweden.

Melander Hagborg J: 'Emotional neglect in adolescence. Impact on mental health.'

Boson K: 'Preliminära resultat från forskningsprogrammet LoRDIA – Hur mår tweenisarna?' [Preliminary results from the research programme LoRDIA – How are the tweenises?]

Presentation at *ANDT (Alcohol, Drugs, Doping, Tobacco) Seminar, County Board*, 2015, Jönköping, Sweden.

Boson K: '*Hur trivs du i stort sett med livet? Psykiskt välbefinnande och ohälsa bland våra yngsta tonåringar.*' [How do you generally enjoy life? Mental well-being and ill health among our youngest teenagers.]

Personaldag for administrative staff at the Department of Psychology, University of Gothenburg, 2014. Gothenburg, Sweden.

Boson K: 'Personality and alcohol.'

Publications in practioneer and other journals (not peer reviewed)

Frida Lygnegård (2019). "Ungdomars röster om egen delaktighet." Forskarintervju i Specialpedagogiska skolmyndighetens tidning Lika värde, nr 1, 2019. Länk: <https://www.spsm.se/stod/forskning-och-utveckling/aktuellt-om-forskning/nyheter/ungdomars-roster-om-egen-delaktighet/>

- Frida Lyngnegård (2019). Artikel om avhandlingen i Sveriges arbetsterapeuters tidning "Arbetsterapeuten nr 3, 2019.
Länk: <http://online.fliphtml5.com/tkwd/bliv/index.html#p=1>
- Frida Lyngnegård (2019). Artikel om avhandlingen i den finska Arbetsterapeuttidningen
- Frida Lyngnegård (2019). Artikel om avhandlingen i tidskriften "Omtanke" som ska spegla verksamhet inom Socialtjänst, vård och omsorg.
- Sabina Kapetanovic (2018). "Mindre riskbeteende med nära föräldrabarnrelation". *Skolhälсан: Stöd till Pojkar*. Riksföreningen för Skolsköterskor.
- Frida Lyngnegård (2019). Ungdomars röster om egen delaktighet Reportage i Tidningen Specialpedagogik (utges av Lärarförbundet) nr 1, 2019.
- Frida Lyngnegård (2018). "Många faktorer styr elevers känsla av delaktighet", Reportage till Skolporten (bevakar relevant forskning i syfte att stärka dialogen mellan forskare och lärare). Länk: <https://www.skolporten.se/forskning/intervju/manga-faktorer-styr-elevers-kansla-av-delaktighet/>
- Frida Lyngnegård (2018). "Participation in and outside school: Self-ratings by Swedish adolescents with and without impairments and long-term health conditions" Forskningsnyhet på Skolporten 2018-09-26.
Länk: <https://www.skolporten.se/forskning/avhandling/participation-in-and-outside-school-self-ratings-by-swedish-adolescents-with-and-without-impairments-and-long-term-health-conditions/>
- Frida Lyngnegård (2018). "Delaktighet i vardagen, ungdomar med och utan olika funktionsnedsättningar berättar" Reportage i Jönköping University's tidning Me&JU, nr 4 2018
- Karin Boson (2017). Forskning om ungdomar och alkoholbruk. Intervju för den fristående nyhetssidan Beernews.se i december 2017.
Länk: <https://www.beernews.se/articles/karin-prisad-forskning-om-unga/>
- Karin Boson (2017). Intervju om varför unga börjar dricka. Intervju både på web och tryck för IOGT-Sveriges medlemsblad *Accent* Länk: <http://www.accentmagasin.se/forskning/hon-undersoker-varfor-unga-borjar-dricka/>
- Karin Boson, Andrea Malešević, Sabina Gušić, & Anders Wahlberg (2015). Psykologer: Regeringen kränker barns rättigheter. Svenska Dagbladet: Debattartikel publicerad både på web och tryck. Publicerad 2015-11-27. Länk: <https://www.svd.se/psykologer-regeringen-krankar-barns-rattigheter>
- Frida Lyngnegård (2015). 'Lika, olika.' Forskarporträtt i Sveriges arbetsterapeuters tidning *Arbetsterapeuten* nr 2 2015.
Länk: https://www.arbetsterapeuterna.se/media/1713/nr2_2015_lag.pdf
- CERA (2015). "Från molekylnivå till samhällsnytta" – Dokumentation från konferens Aktuell forskning om alkohol och narkotika, 8 oktober 2015. Dokumentationen innehåller referat av Karin Bosons, Johan Melander Hagborgs och Russell Turners presentationer.
<https://www.lansstyrelsen.se/download/18.2c30d6f167c5e8e7c012de8/1547559205746/2015-48.pdf>

Podcast & You-tube presentations

(B)RUSET (2020). Tidskriften Alkohol & Narkotikas podd # 14 När, vem och med vilka berusar sig ungdomar. Intervju med Birgitta Ander. Länk: <https://podd.alkoholochnarkotika.se/>

Sabina Kapetanovic (2020). Hur skyddar man sin tonåring från droger och kriminalitet? Västpunkt: Från Högskolan Väst, Trollhättan. Länk: <https://www.youtube.com/watch?v=frnwyYzyfbk>

Frida Lygnegård (2019). Vad påverkar ungdomars delaktighet? Finalist i Forskar Grand Prix. Länk till UR Play: <https://urplay.se/program/215497-ur-samtiden-forskar-grand-prix-2019-vad-paverkar-ungdomars-delaktighet>

Arne Gerdner (2019): Presentation av LoRDIA. Förebygg.Nu. Första delen av följande inspelning. Länk: <https://www.youtube.com/watch?v=tEXNodFuCBg&t=1381s>

Birgitta Ander (2019). Ungdomars berusningsdrickande – vem, var och med vilka? LoRDIA presentationer från Förebygg.Nu. Andra delen av följande inspelning. Länk: <https://www.youtube.com/watch?v=tEXNodFuCBg&t=1381s>

Olof Aronsson och Arne Gerdner (2019). LoRDIA presentationer från Förebygg.Nu, Tredje delen av följande inspelning. Länk: <https://www.youtube.com/watch?v=tEXNodFuCBg&t=1381s>

Karin Boson (2019). Tidigt berusningsdrickande och ungdomars riskbeteende. Förebygg.NU. Första delen av följande inspelning. Länk: <https://www.youtube.com/watch?v=6Ki5uyFnhcQ>

Russel Turner (2019). Ungdomars riskbeteenden vad gäller alkohol, droger och kriminalitet. Var finns risken? Förebygg.NU. Andra delen av följande inspelning. Länk: <https://www.youtube.com/watch?v=6Ki5uyFnhcQ>

Sabina Kapetanovic (2019). Relationen mellan barn och föräldrar. Fokusspår: Att vara ung – jubileumssymposium om psykosociala faktorerers påverkan på utvecklingen från barn till ung vuxen. Presentation på Förebygg.NU. Första (längre) delen av följande inspelning. Länk: <https://www.youtube.com/watch?v=Ryrhz0z-AKI>

Birgitta Lager och Maria Holmstrand (2019). Exempel från Härryda. Fokusspår: Att vara ung – jubileumssymposium om psykosociala faktorerers påverkan på utvecklingen från barn till ung vuxen. Presentation på Förebygg.NU. Andra (kortare) delen av följande inspelning. Länk: <https://www.youtube.com/watch?v=Ryrhz0z-AKI>

Russell Turner (2019). Ungdomar, alkohol, droger och kriminalitet. I serien ”Forskare förklarar”, CERA, Göteborgs universitet. Länk: <https://www.youtube.com/watch?v=64LrmhnO3ZU&list=PLiq9P8bruUJUPZks0BL5yDNafOJGCxfq-&index=14>

Karin Boson (2019). Tidigt berusningsdrickande och ungdomars riskbeteende. Förebygg.NU. Länk: <https://www.youtube.com/watch?v=6Ki5uyFnhcQ>

Frida Lygnegård (2019). Vad påverkar ungdomars delaktighet? Finalist i Forskar Grand Prix. länk till UR Play: <https://urplay.se/program/215497-ur-samtiden-forskar-grand-prix-2019-vad-paverkar-ungdomars-delaktighet>

(B)RUSE (2020). Tidskriften Alkohol & Narkotikas podd # 14 När, vem och med vilka berusar sig ungdomar. Intervju med Birgitta Ander.
<https://podd.alkoholochnarkotika.se/>

Reports

Reports include 8 reports to the four cooperating municipalities concerning student ratings of school comfort, relations to teachers, classroom climate, as well as substance use and emotional health. They concern Waves 1 and 3, and give means on municipal level compared to all four municipalities.

One is a research report:

Ylva Bjereld, Russell Turner & Lilly Augustine (Rapportmanus). Relationen mellan funktionsnedsättning, mobbning och mental hälsa över tid. [The relationship between disability, bullying and mental health over time.]

Three reports are Code Books on data variables:

Arne Gerdner & Torbjörn Kalin (2020). Code Book för LoRDIA:s elevenkäter, vågorna 1-4. [Code Book for LoRDIA's student surveys, waves 1-4.] LoRDIA-publikation från Jönköping University. School of Health and Welfare, Department of Social Work.

Arne Gerdner (2020). Code Book för LoRDIA:s lärarskattningar och skolregisterdata, vågorna 1–3b. [Code Book for LoRDIA's teacher estimates and school register data, waves 1–3b.] LoRDIA-publikation från Jönköping University. School of Health and Welfare, Department of Social Work.

Arne Gerdner (2020). Code Book för LoRDIA:s föräldraenkäter, vågorna 1–2. [Code Book for LoRDIA's parent surveys, waves 1-2.] LoRDIA-publikation från Jönköping University. School of Health and Welfare, Department of Social Work.

One report concern analysis of attrition during waves 1-2.

Arne Gerdner (2017). LoRDIA:s Elevdata – svarspopulationer och bortfallsanalys. LoRDIA-publikation från Jönköping University. School of Health and Welfare, Department of Social Work.

Two reports to the financial contributors.

Arne Gerdner (2017). Tonårsutveckling - Ett prospektivt longitudinellt forskningsprogram om ungdomars sociala nätverk, missbruk, psykiska hälsa och skolanpassning. Project number: 2012-25. Self-evaluation report to Formas, Vinnova, Vetenskapsrådet & FORTE. Jönköping University. School of Health and Welfare, Department of Social Work

Arne Gerdner (2021). Summarizing Report from Longitudinal Research on Development In Adolescence (LoRDIA). Jönköping University. School of Health and Welfare, Department of Social Work. [i.e., this report]

Student Theses

LoRDIA data have been utilized in education for student thesis at both master and candidate levels, both at the universities responsible for LoRDIA – Jönköping University and Gothenburg University, and sometimes, on request, at other universities, i.e. University West, Uppsala University, University of Oslo.

Master thesis

Nina Ambrus (2021). Utsatthet för barnmisshandel och relationer till jämnåriga i ungdomsåren. [Exposure to child abuse and peer relationships in adolescence.] Göteborgs Universitet, Psykologiska Institutionen.

Sara Mehdin och Lise Mueller (2019). Barnmisshandel och dess påverkan på sexuell hälsa och sexuellt risktagande bland unga i Sverige. [Child abuse and its impact on sexual health and risk-taking among young people in Sweden.] Göteborgs Universitet, Psykologiska Institutionen

Torbjörn Kalin (2018). Fritidsvanor hos socialt utsatta barn. [Leisure habits of socially vulnerable children.] Jönköping University. School of Health and Welfare Department of Social Work.

Qi Meng (2018). School's social environment in relation to participation and well-being of young adolescents with self-rated neurodevelopmental problems. Jönköping University, School of Education and Communication.

Katarina Olsson (2018). Ungdomars upplevelser av påverkan i relation till vuxna: En fenomenologiskt inspirerad studie utifrån ett agens och empowerment-perspektiv. [Young people's experiences of influence in relation to adults: A phenomenologically inspired study from an agent and empowerment perspectives.] University West, Department of Social and Behavioural Studies, Division of Psychology, Pedagogy and Sociology.

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The future of LoRDIA

The LoRDIA database will be cleaned from variables such as municipality and school, personal comments and other variables that could easily be used for backward identification of individuals. For some variables, only recoded categorical dummies will be saved. The original four digit id-code will be removed. The remaining data will be stored at Jönköping University, and be prepared in accordance with the statutes of the Swedish National Data Service (SNDS). Code Books presenting the variables of student questionnaires, parental questionnaires, teacher questionnaires and school register data are available. Syntax files for scales and other dummies have been prepared. External researchers may get access to the data – or parts of them – after application, ethical review and consideration of the quality of the research plan. There is a charge to cover the administrative costs.

Many of the researchers who have been involved in LoRDIA continue to publish research based on the LoRDIA data. We mentioned earlier that a number of affiliated research programmes already have financial support. One new doctoral candidate is now seeking financial support. Many of the previous doctoral candidates seeking post-doc funding are granted access to LoRDIA data for that. Therefore, we expect that LoRDIA will still result in many more publications. Among these are also the recently collected interview data (Wave 6), not yet published.

In accordance with the original application and research programme of LoRDIA, the research population will be followed up to the age of 25 years through institutional data collections (registers, records). This will however be carried out by its successor programme, LoRDYA, also residing at Jönköping University. The new LoRDYA data will not be included in the LoRDIA database prepared according to the SNDS and will not be available to external researchers.

There are also some plans for another continuation even after LoRDYA, i.e. to follow the same population after 25 to investigate the further adulthood development and the generational continuation in adulthood: LoRDAP (Longitudinal Research on Development in Adulthood and Parenthood).

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LoRDIA Flowchart Waves 1-6



