University of Zurich[UZH]

JACOBS CENTER

Annual Report

Jacobs Center for Productive Youth Development

2021

www.jacobscenter.uzh.ch

Content

Providing stability in a time of instability

Moritz Daum
Prof. Dr.
Director
Professor for Developmental Psychology Jacobs Center
Department of Psychology

When I look back at the year 2021, routine and stability are two aspects that characterize the year very well. In 2020, the Jacobs Center for Productive Youth Development (JCPYD) – much like society as a whole – was confronted with the challenge of completely adapting its entire operations, research, teaching and collaboration to a new reality in a very short period of time. Conversations in the hallway or over a coffee break arranged at short notice were no longer possible. In 2020, everyone still thought the pandemic would probably be over as quickly as it started, but 2021 proved us wrong. However, a certain routine set in with increasing experience. The focus shifted from how to assess the impact of the pandemic on society and on children's and young people's development to the first successful publications of findings on this topic. We no longer had to think about how to efficiently teach, conduct symposia and hold individual meetings online, or whether to use Teams, Zoom, Skype or another program, or how to turn the sound on and off – in most cases, well-rehearsed mechanisms took hold. Even two meetings with the Scientific Advisory Board of the JCPYD took place online, both of which were enormously beneficial and inspiring.

One reason why we were able to overcome the adverse circumstances in 2021 is the well-established stability of the Jacobs Center. In the last annual reports, the focus was more on fully building up the Center, a goal that was achieved in 2020. Even though we had to let Teodora Boneva, a valuable member of staff, move to the University of Bonn, the JCPYD has developed into a research center that is rapidly gaining momentum and a place where interdisciplinary collaboration is taking on increasingly concrete and visible forms. This stability acted as a resilience factor for the JCPYD's work and contributed significantly to making 2021 such a successful year for us.

As the newly elected director of the JCPYD, I would like to work together with our excellent team to achieve two main goals in the coming years: to advance interdisciplinary collaboration inside and outside the JCPYD and to help the JCPYD evolve into a far-sighted research center that focuses on the development of children and youth and that can make a significant contribution to tackling societal issues. I would like to thank the Jacobs Foundation and the University of Zurich for their confidence in the work and potential of the JCPYD and look forward to continuing to work together in the future.

Key figures

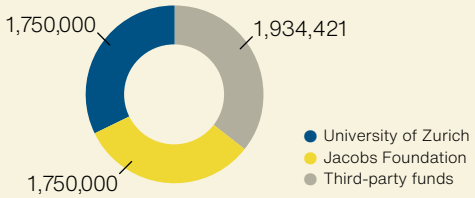
The Jacobs Center is a joint venture between the University of Zurich and the Jacobs Foundation.

Total financing: CHF 70 million over 20 years, borne in equal parts by UZH and JF.

UZH and JF each contribute CHF 1.75 million annually.

In 2021 the Jacobs Center acquired new third-party funds totalling CHF 1,934,421.

Finance | CHF 5,434,421



49 highly talented individuals

9 professors

7 administrative staff

33 academic staff

We also work with thirteen professors from different instutitions.

66 academic publications,

of which **9** are interdisciplinary

Research for all children and young people

Gabriele Siegert
Prof. Dr.
Deputy President of UZH
and Vice-President of the Jacobs
Center Steering Committee

The JCPYD has not been slowed down by the coronavirus pandemic in 2021. My sincere thanks go out to all researchers at the JCPYD for their important contributions. Especially in times of crisis, research – and in particular, interdisciplinary research – is of invaluable importance. Working together on a problem from different scientific backgrounds often leads to creative solutions. And we need that now more than ever – which is why institutions like the JCPYD are booming in these troubled times.

I am pleased that in 2021, Prof. Dr. Moritz Daum became the new director for the Center and is committed to promoting precisely this collaboration between the various disciplines at the JCPYD. The numerous publications, talks (also with international guests, thanks to Zoom) and media contributions show that the Center's researchers are well networked and sought-after experts beyond Zurich. After all, communication and information are also important duties of the scientific community in our era.

I would like to thank the Jacobs Foundation for its trust and the opportunity to advance top-class research at UZH on the successful development of children and adolescents and to transfer these findings to society at large.

Simon Sommer
Co-CEO of the Jacobs
Foundation and President
of the Jacobs Center
Steering Committee

The more often people hear certain statements, the more inclined they are to believe them. This "illusory truth effect" has been confirmed in many studies and is a popular tool of political rhetoric.

So when I wrote in the prefaces to the last two annual reports of the Jacobs Center for Productive Youth Development that especially during an era of global pandemics, research on youth development is more important than ever, I could be accused of using such manipulative tactics.

And at the same time, the next crisis the world has seamlessly plunged into shows us once again the importance of the Jacobs Center's research topics. Hundreds of thousands of children and young people are directly affected by the armed conflicts in Ukraine – in the war zones themselves as well as in neighbouring countries. Their mental health, their education and their futures are at stake.

It should be clear to everyone that this will not be the last international crisis to affect the well-being and development of children and young people. And therefore, at the risk of repeating myself again: Research into the development of young people is more important today than ever before – also and especially here in Zurich. The very fact that Switzerland has been largely spared many global crises should be an incentive for us to make research possible that benefits as many children and young people worldwide as possible.

The Jacobs Foundation would like to thank all the staff of the Jacobs Center for their great commitment in 2021 as well as the University of Zurich for its continued excellent cooperation.

Increasing the Jacobs Center's international visibility

Now that our research center is fully developed, the next step will be to strengthen the internal focus of the Jacobs Center for Productive Youth Development (JCPYD) and increase its international visibility. To this end, two important measures were adopted in 2021:

1. **a joint annual symposium**
2. **a joint, international doctoral program.**

1.
The Jacobs Encounters in Developmental Science from an Interdisciplinary Perspective (The J.E.D.I. Symposium)

The J.E.D.I Symposium takes place annually (or twice a year). Every year, the event focuses on one burning topic concerning the development of children and youth or potentially also the entire lifespan. This topic is discussed by four to five leading experts from different fields. These fields include the three sections of the JCPYD – economics, psychology and sociology – and can be extended by one or two different fields such as pediatrics, education science, (developmental) neuroscience, history or anthropology. The J.E.D.I. Symposium can be held online to broaden the field of participants and facilitate international participation.

The focus is defined by a small working group consisting of two to three JCPYD professors, perhaps in collaboration with one or two junior researchers and the secretariat.
Organizers: Ana Costa-Ramón, Nora Maria Raschle and Moritz Daum

First J.E.D.I. Symposium held in November 2021
Prof. Terrie Moffitt from Duke University (and King's College London) was the first speaker in our J.E.D.I. Symposium series

The title of her talk, which can be viewed at the link below, was: "Measuring the pace of biological aging in young people: Prevention opportunities"
VIDEO ↗

2.
A joint international doctoral program

The International Max Planck Research School on the Life Course (LIFE) is a joint international PhD Program of the Max Planck Institute for Human Development, the Freie Universität Berlin, the Humboldt-Universität zu Berlin, the University of Michigan, the University of Virginia, and the University of Zurich.
The goal of the Research School is the study of the systematic changes in human behavior over evolutionary and ontogenetic time. The general approach is aimed at advancing the behavioral and social science of human development. LIFE takes an integrative and interdisciplinary approach to understanding human development in a changing world, connecting evolutionary, ontogenetic, historical and institutional perspectives. The focus is on the evolution and interaction of individual and institutional development.
LIFE offers students unique training in the dynamics of human behavior on different time scales. These include long-term changes, such as in the evolution of culture and emergence of institutions of learning, and short-term changes, such as in individual education processes, lifespan development and institutionally regulated life-course processes. The curriculum combines psychology, educational science, neuroscience and biology, focussing especially on the dynamics of human behavior on different time scales.

Description taken from the website: www.imprs-life.mpg.de

Current JCPYD members

Nora Maria Raschle, Lilly Shanahan and Moritz Daum are actively participating in IMPRS LIFE with PhD students. The JCPYD will be the Zurich host of IMPRS LIFE and open the program to all PhD students (fellows) and senior researchers (faculty members) from the three JCPYD areas (economics, psychology, sociology). This will strengthen intra-center communication, collaboration and international networking among doctoral students.

International Max Planck
Research School
on the Life Course

Max Planck Institute for Human Development
Freie Universität Berlin
Humboldt-Universität zu Berlin
University of Michigan
University of Virginia
University of Zurich

Interviews

Ulf Zölitz
The surprising impact of female-dominated classrooms

In 2021, Ulf Zölitz investigated how the sex distribution in classrooms influences what students choose to study. He found significant differences between men and women and the long-term impact on their life paths.

Ulf Zölitz
Prof. Dr.
Assistant Professor
of Economics for Child and
Youth Development
Department of Economics
Principal Investigator
of Education Economics
Research Area
zIReN Collaboration Partner
Member of the Governing
Board

Ulf Zölitz is an expert in peer research. He delivers insights into how people's social environment impacts their well-being and performance, which provides a foundation for schoolchildren, students and employees to work in the best possible environment. "My motivation is for every person to be able to unlock their full potential," he says.

Percentage of female secondary school students influences choice of studies

Peer effects also play a role in what people choose to study. In 2021, Zölitz and UZH economist Anne Ardila Brenøe discovered the following effect: In classrooms with an above-average number of female students, prospective female students gravitate more toward more health-related subjects and less toward STEM subjects (science, technology, engineering and math). Zölitz and Brenøe also found an effect for males, albeit a much smaller one: they tend to select STEM subjects somewhat more frequently when they attend school with a lot of female students. A higher percentage of women translates into a higher likelihood that students choose their field in line with gender stereotypes.

The research was based on data from Denmark, which runs a central registry of students' fields of study in high school and college as well as their labor market participation.

The role of grades

Zölitz and Brenøe were also interested in finding out how this came to be. Do women tend to talk and align among themselves more? Do they feel more or less capable of studying STEM subjects depending on whether they are surrounded by men or women? "It was difficult to choose appropriate statistical methods to dig out real causal relationships," says Zölitz. The two researchers found out that students' grades at secondary school have a crucial impact. Men have significantly

better grades when they attend school with a lot of women compared to when the percentage of women is average. Women's grades remained the same regardless of how many other women were present. At the same time, those students with above-average grades chose STEM fields regardless of the gender composition of their classrooms. In female-dominated classes, this dynamic led to the following outcome: male students feel capable of studying STEM subjects because of their grades, as they perform especially well in these areas. Female students feel less capable in comparison with the male students and choose other fields of study.

The role of parents' educational backgrounds

Of course, it's not only classmates who influence what students choose to study. Zölitz and Brenøe also noted that parents make an impact here as well. For prospective female students, what their mothers chose to study was particularly relevant. If the mothers studied a STEM subject, their daughters were not influenced by the gender of their peers.

In general, both female and male students from well-educated households choose their fields of study more independently from peer influence.

Choice of field shapes the labor market

Zölitz points out that what men and women study influences their choice of career, their salary and their family planning – and thus society as a whole. Fifteen to twenty years after graduating high school, men from female-dominated classrooms have an above-average participation in STEM careers and have fewer children later in life than men with fewer female classmates. Women from these classes tend not to be involved in the STEM field. They earn less and have more children earlier on than women from classes with a balanced sex ratio. Of course, these matters are also influenced by other factors, or they influence each other. Women with more children are often less involved in the workforce, for example, and therefore earn less money. The classroom gender composition that influences women's choice of field is just one piece of the puzzle that leads to social disparities later down the line.

Sex-segregated education is counterproductive

It is not yet clear whether Zölitz und Brenøe's findings from Denmark can be applied in full to Switzerland. Denmark is ahead of Switzerland in many areas when it comes to gender equality. Still, there were significant effects, and these could be even bigger in Switzerland because of the country's stronger gender roles.

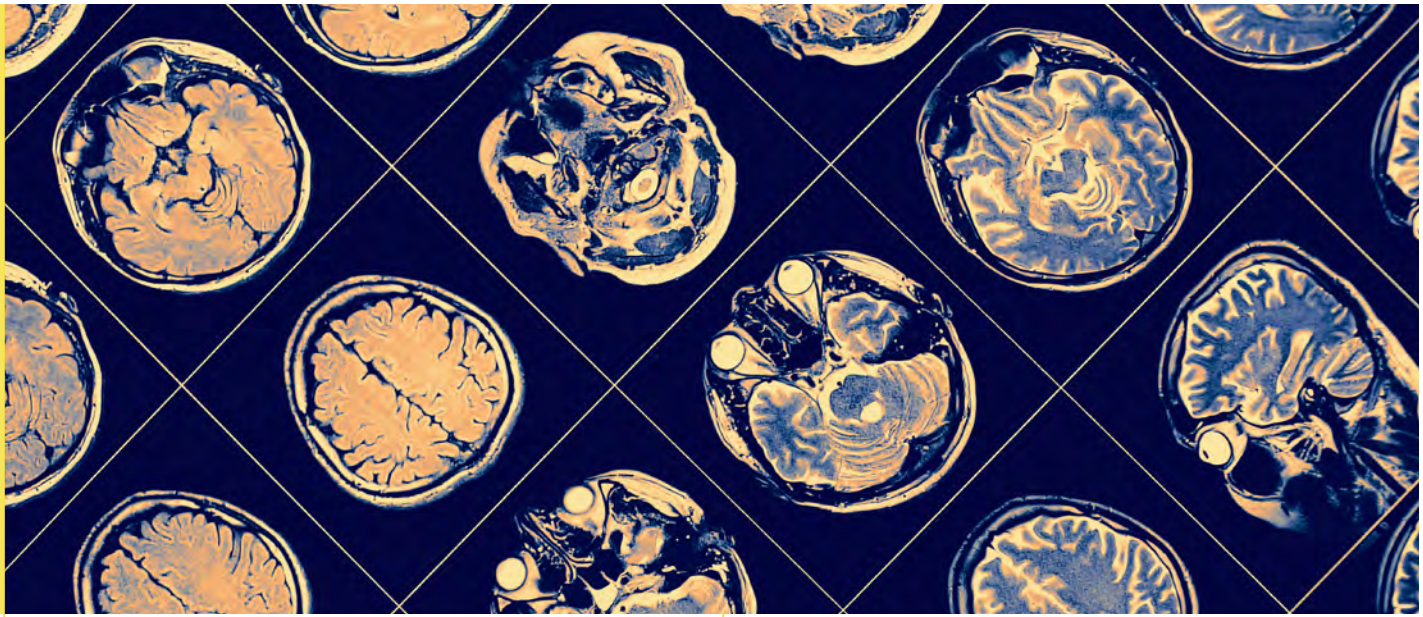
Zölitz offers one real-world conclusion based on his research findings: There are often discussions about whether having sex-segregated classes for some subjects would encourage more women to go into STEM fields, but he doubts whether this would bring us closer to our goal. On the contrary, single-sex education tends to exacerbate the tendency of sex to play a role in one's choice of study, which would mean that women feel less suitable for studying STEM subjects.

Text: Anina Steinlin | Editor: Caroline Hasler

Interviews

Nora Maria Raschle
Using and understanding networks

“The brain is a toolbox that allows us to exercise certain abilities. How we use these abilities or whether they bring us forward depends very much on the context and individual, however,” says Nora Maria Raschle. Her work aims to shed light on how the brain changes, grows and learns. To achieve this, she researches developmental processes in children and adolescents and observes how children and adults react to stress.



Nora Maria Raschle
Prof. Dr.
Assistant Professor
of Psychology
Principal Investigator
of Developmental Neuroscience Research Area
zIReN Collaboration Partner
Member of the Governing Board

Before the pandemic hit, neuroscientist Nora Maria Raschle often worked with scans that produced real-time measurements of which regions of the brain become activated by certain tasks. COVID-19 put research of this kind on ice, forcing her and the NMR Kids Lab team to rethink their approach. They ended up posing new questions surrounding their existing interests. Their previous studies had investigated social-emotional development, which is how children learn to process and regulate their feelings. They also learn how to see things from other people’s perspectives and understand the thoughts or feelings of others. Raschle and her team decided to investigate how these abilities influenced our psychological well-being during the pandemic.

They recruited children and their mothers to regularly fill out online questionnaires, which they then used to analyze the physical and mental well-being within the family. Their findings showed that having an increased ability to put oneself in others’ shoes was correlated with having elevated fear of viruses and infection during the pandemic. “Empathy is useful, but it can be a risk factor for your mental health,” says Raschle.

Emotional regulation during the pandemic

So how can we regulate our feelings of stress so as not to become overwhelmed by them? This was another question that Raschle and her team tackled during the pandemic. “Having an initial abnormal reaction to an abnormal situation is totally normal. The question is how we adapt to these kinds of situations over the long term,” explains Raschle. We can cope with stress in ways that are either adaptive or maladaptive.

Maladaptive strategies bring short-term relief but are harmful over the long run: It would be maladaptive, for instance, to always blame others for one's personal problems. Adaptive strategies lead to lasting reductions of stress and increase people's quality of life: You can choose to see bad situations as learning experiences or overcome feelings of loss of control by forging new plans.

Raschle's group studied how adaptive and maladaptive strategies impacted people's mental health during the pandemic. It turned out that adaptive strategies were not always better. This was the case for people who try to create security by working on plans for the future. "At the beginning of the pandemic, it was helpful to want to tackle the situation, but after one to two years you have to decide whether you can actually change anything about the situation. If not, it's important to be able to accept it," says Raschle.

Using and understanding networks

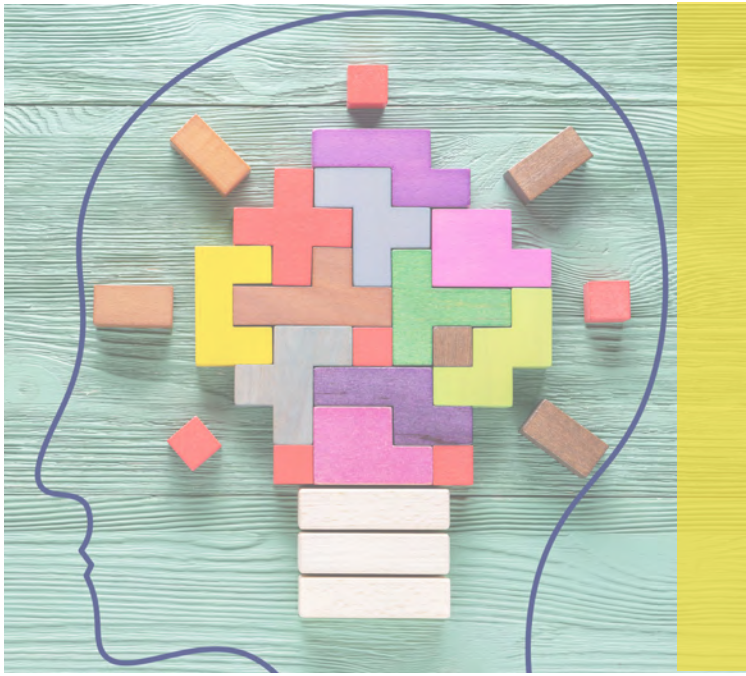
The interplay between individuals and their environments – be it their families, their social sphere or the realities of the pandemic – is at the center of Raschle's work. "Neuroscientists often research the brain in isolation, as if it were in a snow globe. We shake the snow globe a bit and see what happens," she explains. "Isolated research is important and has taught us a lot, but in order to move forward we need to move beyond isolated observation."

To achieve this, Raschle's team is working on new projects that not only study brain development in individual children and adults but also the system in which they live. It is not only neural and systemic networks that draw Raschle's attention – she is active in scientific networks as well. Her group joined forces with the z-proso team, giving them the opportunity to combine their research with data about the psychological development of adolescents. Raschle is also part of the new STRESS flagship project at the Hochschulmedizin in Zurich, an interdisciplinary undertaking that aims to combine psychology, neuroscience and molecular biology in order to understand how people react to stress. Her team also contributes to the University Research Priority Program "Adaptive Brain Circuits in Development and Learning".

The importance of science communication

Raschle is particularly proud of the synergies that she has been able to create over the past year. This applies both to her own group as well as to collaboration with other researchers. During her first year at the Jacobs Center, operations were switched online, forcing her to take a new approach to team-building during the pandemic. "I'm very satisfied with how well we worked together despite COVID," she says.

For next year, she is looking forward to working with families and children in person again and giving them insight into the world of brain research. Science communication is a topic close to Raschle's heart. "The pandemic showed how important it is to understand scientific facts and how scientific facts are arrived at in the first place," she explains. Raschle added that science is not a simple process but rather one in which you always have to be prepared to ask new questions and allow yourself to be surprised by new knowledge.



Text: Caroline Hasler | Editor: Olivia Meier

Interviews

Ana Costa-Ramón
Towards more interdisciplinarity in economics

For over a year now, microeconomist Ana Costa-Ramón has held the post of Assistant Professor of Economics of Child and Youth Development at the Jacobs Center. During this time, she has advanced her research at the intersection of child development, gender economics and health economics.

Ana Costa-Ramón
Prof. Dr.
Assistant Professor
of Economics of Child
and Youth Development
Principal Investigator
of Health Economics
Research Area

When Ana Costa-Ramón was portrayed for the first time in the Jacobs Center annual report last year, she was busy working on two projects. The first investigated how the mental health and workload of parents are impacted when their children have to stay in the hospital. Using extensive data from Finland and Norway, Costa-Ramón was able to demonstrate that while mothers' incomes declined, there was no such decrease for fathers – likely attributable to the fact that women are more likely to be responsible for childcare. "These results have political significance and show that women's careers continue to disproportionately shoulder the costs of having children even after the children are born," says Costa-Ramón. The study is made more controversial by the fact that Scandinavian countries are often considered to be models of gender equality.

Costa-Ramón's second project – now completed – showed that doctors perform more unplanned C-sections on weekends and holidays. She compared women who were admitted to the hospital with the same conditions but who had different likelihoods of undergoing a C-section depending on when they gave birth. The results suggest that avoidable C-sections increase the risk of childhood asthma but do not have any impact on other immune-mediated diseases, which has been suggested by other studies.

Empowering women to make informed choices

Costa-Ramón's latest research concerns the economic situation of women. She is investigating why women seldom return to the labor market following the birth of their children. "The motivation for this study is the observation that childbirth often leads to large, persistent disparities in men's and women's incomes," she explains. While studies demonstrate that this gap results from women working far fewer hours

than men, the motivating factors behind women's decisions are less well known.

In a large-scale trial in Switzerland, Costa-Ramón is examining how women perceive the long-term consequences of their reduced participation in the workforce. Important financial aspects include lifetime income, pension contributions and having a financial buffer in case of misfortune. In the study she attempts to correct potential financial miscalculations via an informational intervention that shows the short- and long-term compromises that these kinds of decisions entail. Short-term comprises involve either paying for childcare and working more or not working and not having to pay for childcare. "Since childcare in Switzerland is expensive, it can be better for some families if one parent stays home or reduces their working hours," says Costa-Ramón. However, when making this choice, people often fail to consider the long-term financial implications, for instance in terms of reduced pension payments, loss of income and career setbacks. Costa-Ramón hopes that her study will empower mothers to make informed decisions about their financial futures.

Her other project focuses on the impact of the birth control pill on young women's mental health, education and workplace outcomes.

"There is a large body of medical literature that emphasizes the benefits of the pill. However, some observational studies have found that the pill is connected to negative psychological side effects."

Despite this evidence, young women have a surprising deficit of knowledge when it comes to the potential downsides of hormonal birth control. This is noteworthy when considering the large percentage of women who take the pill: In the US from 2015 to 2017, 16.6% of 15- to 19-year-olds and 19.5% of 20- to 29-year-olds were taking the pill. It would be important for them to be aware of what side effects they could expect. Costa-Ramón wants to help close this knowledge gap.

Her new projects also come with their difficulties, however. "It was a challenge to move beyond using data that's already available and to design my own experiment for the first time," she says, adding that it was a fascinating and educational process.

Harnessing an interdisciplinary approach

Costa-Ramón's goal for this year is to make headway with her latest projects. She is looking forward to the results and to presenting her findings at workshops and seminars.

When it comes to her research interests, she says that Claudia Goldin's book *Career and Family* has made a lasting impact on her. Goldin describes women's historical journey to close the gender wage gap and sheds new light on continuing inequalities at home. "An inspiring book," says Costa-Ramón. "I hope it gets the Nobel prize someday."

Similar to her book recommendation, Costa-Ramón's work is also informed by an interdisciplinary approach. In her view, economics could be doing more as a field to fully harness the potential of interdisciplinary research. "I wish that interdisciplinary work got more appreciation in economics," she says.

"I have the feeling that we could work much better if we did it in an interdisciplinary way. But fortunately, that's exactly what we do at the Jacobs Center, and I'm very grateful to be part of this extraordinary group."

Text: Selina Widmer | Editor: Caroline Hasler

Interviews

Michael Shanahan
Taking a long-term view of genes and life experiences

Michael Shanahan heads up the social genomics research group and is part of the leadership team of the Bunavia study at the Jacobs Center. We sat down with him to learn more about his recent research findings and his work with quantitative data.

Michael Shanahan
Prof. Dr.
Professor for Sociology
Department of Sociology
Member of the Governing Board

What's been your favorite research finding from the past few years?

I'm impressed by Cecilia Potente's work in our social genomics group. She researched whether body weight at five different points in time, from birth to the mid-30s, has any correlation with inflammation. Inflammation is an underlying factor in most of the major chronic diseases, so it's important to look into it in further detail. We examine inflammation based on genetic activity, which is a unique approach. Cecilia discovered that body weight at all five points predicts the extent of inflammation at age 36. In other words, your current weight is important, but your birth weight and your weight in your teens and twenties also has a long-term impact on your health.

What are the societal implications of this finding?

Everyone has a body weight history that impacts their health. This finding has two implications. Firstly, parents need to be aware that their children's weight has life-long consequences. For this reason, parents and society should promote healthy food options and start teaching children about nutrition when they're young. Secondly, it's never too late to start with a healthy lifestyle, and making health-conscious choices can really make a long-term difference for our health.

This is just one of many connections that your research has highlighted. If you could have the answer to any of your research questions, which one would it be?

How does our social environment impact our feelings, which in turn shape our health? Take, for example, people who are discriminated against: What is it that triggers emotional reactions

to discrimination, and how are these feelings translated into biochemical signals in the body? It's probably the case that the social triggers for emotional reactions are actually dependent on personal experiences and general social trends. We know that experiences with status, race, gender, loneliness and stress – just to name a few examples – are related to health. However, there's no detailed explanation that takes us from society down to the cellular level.

In order to answer questions like these you need solid scientific approaches. You frequently work with quantitative data in your research. Can you tell us how to draw conclusions from data of this kind?

That's a very important question and one of the main questions that motivates scientists on a daily basis. Our work in the social genomics group is maybe complicated because we're examining social data collected over many years and then connecting this data with genetic information. The most important data set, Add Health, contains over 10,000 variables that describe the social environment of participants from birth until their mid-30s, as well as biological data from over 4,000 participants. A lot of creativity is needed to interpret such an enormous amount of data.

This aspect of our work – finding creative solutions to statistical problems – is part of the research process that I personally find to be a lot of fun. Our team, working under Justin Chumbley, published an excellent article last year that highlights the creative aspect of data analysis. Developmental scientists often want to know when something is significant in life – for instance, whether people react more sensitively to stress at certain ages. This question is astonishingly hard to answer for many technical reasons. Justin proposed a unique instrument that should help identify the developmental phases that are key to health and well-being.

That means that creativity is both an opportunity and challenge when it comes to research with quantitative data. What are some other opportunities and challenges on the quantitative side?

When using quantitative data, the most important thing to keep in mind is that we need to be clear about the strengths and the limits of our work. The challenge is interpreting as much as possible from the data while also recognizing problems and hoping that our work is raising the bar for researchers in the future. I like this dynamic because it requires a lot of creativity, advances our understanding of methods, and inspires honest discussions about the problematic aspects of our work. For social science research in particular, we never really cross the finish line. But the landscape on the way there can be breathtaking.

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Text: Angela Odermatt | Editor: Caroline Hasler

Interviews

Moritz Daum
Networking in the coronavirus era

It was a year of significant change for developmental psychologist Moritz Daum. Although he had already adjusted his research and teaching to the realities of the pandemic, his new position as director of the Jacobs Center for Productive Youth Development presented new challenges.

Moritz Daum
Prof. Dr.
Director Jacobs Center
Professor for Developmental Psychology Jacobs Center
Department of Psychology

Tackling the task of building a network during the pandemic, when personal interaction took a backseat to all other considerations, is a bold step. Moritz Daum wasn't deterred, however. The *Developmental Science Network Zurich* was approved in 2021 and has brought him one step closer to his goal of bringing together expertise in the developmental sciences in the Zurich area. Many members of the network, which focuses on the development of individuals during their lives and also extends to other species, are part of the Jacobs Center. The group brings together a diverse array of disciplines: researchers hail from the developmental sciences, psychology, medicine, linguistics and biology, to name a few examples. "The network isn't just a place for fostering new projects. We also want to show the great extent of the expertise we have in Zurich in the developmental sciences," explains Daum.

Network: keyword of the year

The *International Max Planck Research School on the Life Course (LIFE)* is another undertaking based on the value of networks. The Jacobs Center is an important cornerstone of this doctoral program. "LIFE connects a lot of different institutions: the Max Planck Institute for Human Development, Freie Universität Berlin, Humboldt University of Berlin, the University of Michigan, the University of Virginia and the University of Zurich," explains Daum.

"The doctoral students in the program should travel and be able to interact with peers and experts in their fields. This gives them the chance to build their own networks."

An event held by an existing network at the end of November turned out to be another highlight for Daum. "The first J.E.D.I. symposium, which took place as part of the Jacobs awards ceremony, was an amazing event," he says. "The talk by Terrie Moffitt, who's not just a great researcher but also a very likeable person, was impressive." J.E.D.I. *(Jacobs Encounters in Developmental Science from an Interdisciplinary Perspective)* also intends to provide a platform for more exciting talks in the future. "The concept for the next symposia is slowly taking shape," says Daum, who imagines the possibility of a podium discussion where one topic can be tackled and discussed from a variety of different angles.

Coronavirus challenges and multilingualism

"In 2021 things got quieter on the coronavirus front," reports Daum. "Online seminars ran smoothly, and we had more routine than in 2020. Especially when inviting external guests, it really simplifies things to have an online format." Nevertheless, he values in-person interaction and is glad to once again be able to meet the needs of his students in this regard:

"A lot of things work online, but the variety of information is really limited."

The pandemic also made its way into Daum's research. Once the initial challenge of how to continue working on ongoing research projects and Master's theses was overcome, Daum and his colleague Stephanie Wermelinger requested a project to investigate the influence of masks on the social and cognitive development on small children. In two studies, they compared the eye contact behavior and emotional perception of children before and after the pandemic.

The preliminary findings come as a relief: mask mandates do not seem to have had a large effect on these two aspects of childhood development. Possible reasons include their continued contact with other maskless children and their parents, who largely don't wear masks.

The "kleine Weltentdecker" app (German for "little world explorers") turned out to be a blessing during the pandemic. The app, which acts as an online diary for parents to track their children's development, had been developed pre-corona and allowed Daum and his team to continue collecting data. Various co-operations, for instance with the Marie Meierhofer Institut für das Kind, also contributed in this regard. "These co-operations helped to make the app more popular and to expand the data set," explains Daum.

"In exchange, our partners get a tool for collecting longitudinal data on childhood skill development. Since the app is available in multiple languages, it makes it possible to conduct longitudinal research far beyond the borders of Switzerland."

Multilingualism is another topic that has occupied Daum over the past year. How do children who grow up with several languages differ from children who only grow up with one, and how does this influence their communication? Daum and his colleagues Anja Gampe and Stephanie Wermelinger hypothesize that children who grow up multilingual are more sensitive to communicative factors. They are now attempting to back up their hypothesis with existing studies as well as studies of their own.

Inclusive leadership

Daum's experience as the new director of the Jacobs Center has been challenging – but also rewarding and highly educational. His networking drive also motivates him in this new role: "I'd like for the Jacobs Center to evolve even more strongly into a true center where we speak more with each other and less past each other." Daum follows a specific leadership philosophy here. "As a director you sometimes have to make clear decisions. But it's still important to me to be receptive to people's needs and to try to have the flattest possible hierarchy," he explains.

"In this way decisions should be widely accepted and not perceived as arbitrary. I believe that people will deliver their best work when they are appreciated and feel comfortable."

Text: Selina Widmer | Editor: Caroline Hasler

Interviews

Lilly Shanahan
Long-term impact of psychological problems in children and adolescents

During the coronavirus pandemic, adolescent mental health received an unprecedented amount of attention. Despite this, many of those who were impacted most didn't have timely access to the psychological support they needed. Professor Lilly Shanahan's research on the long-term consequences of psychological problems in children and adolescents demonstrates why this is so important. According to Shanahan, there is much to be done to increase people's awareness and knowledge of mental health problems.

Lilly Shanahan
Prof. Dr.
Professor for Clinical Developmental Psychology
Department of Psychology
Principal Investigator of Risk & Resilience Research Area
Co-Project Director z-proso

Far-reaching consequences of mental health problems in childhood and adolescence

Adolescents are often confronted with chronic stressors, which can lead to psychological problems such as depression. If recognized and treated in time, this can be an opportunity for the young patient to learn healthy ways of dealing with stress. There's usually not any infrastructure in place for this, however, and there's also a lack of low-barrier professional treatment available.

It's especially important to promote mental health during adolescence in order to minimize risks down the line, as psychological problems that emerge during this time can have an impact over the long term. Anyone who faces psychological problems during childhood or adolescence is more likely to consume drugs, is at higher risk for having problems in their social relationships and has decreased chances of reaching their full educational potential. There is also an increased risk of suffering from mental and physical illness as an adult. The longer someone has depressive symptoms as an adolescent, the higher their risk is for suffering from long-term consequences of this kind.

Promoting knowledge and awareness

Some life-long behavioral patterns and habits are formed early on. This means that if someone learns how to foster their mental health at a young age, they will be able to build on this foundation and fall back on it their whole lives. According to Shanahan, we need to have increased awareness and more knowledge when it comes to mental health in order to make sure healthy habits become engrained at an early age. If mental health problems are recognized in time and treated in a competent manner, this can be an opportunity to learn healthy coping mechanisms, she says. In many cases, however, there is often not any infrastructure in place for this, in

addition to a lack of low-barrier expert treatment. The consequences are far-reaching and can impact people as well as those in their social environments for many years.

Open data: opportunities and challenges

If we are to properly understand the long-term consequences of psychological problems in childhood and adolescence, there is a need for studies that follow and investigate participants over decades. The Jacobs Center's z-proso study has tracked around 1,400 young people from Zurich since 2004, to name one example. Studies of this kind require an enormous amount of effort. In Shanahan's view, reproducibility and cooperation between researchers are crucial – and open data is one way of promoting them. Open data can facilitate advantages such as transparency, the ability to fully exhaust the potential of a study, and simplified integrative data analysis. Data collected in Jacobs Center projects is also shared with other researchers for these purposes.

Open data also presents some challenges, however, with data privacy being a major concern:

"It's crucial to protect the anonymity of the people who take part in our studies, because a lot of the information that we collect is very personal and sensitive. There's a tension here that's not totally easy to navigate."

For this reason, Shanahan says that it's important to define guidelines for open data that facilitate controlled access to data while preserving the anonymity of participants.

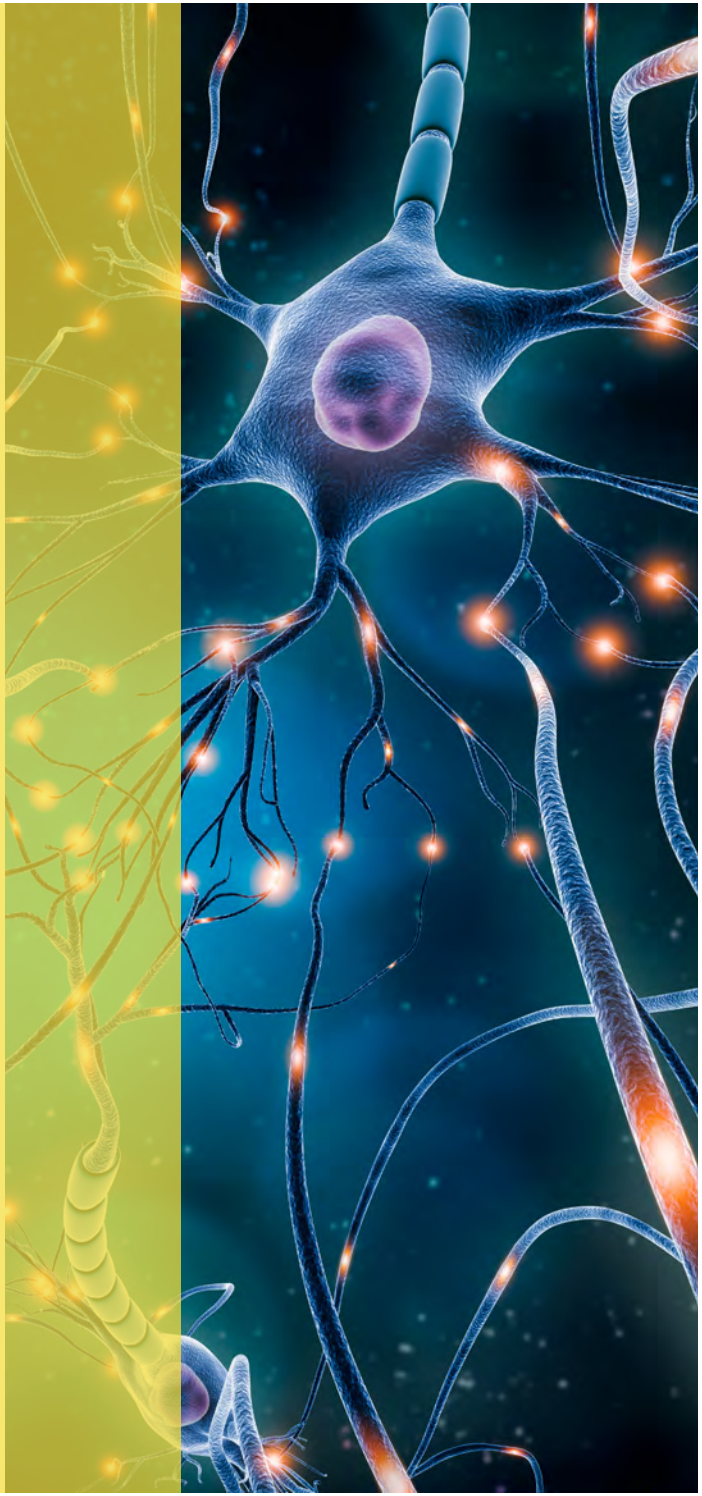
Coronavirus: research and society

"Reflecting on problems that occur during adolescents' development, posing questions, testing hypotheses, making new discoveries," says Shanahan when asked to describe the research process. "Doing all of this with your team, your colleagues, students, the general public. And building on this foundation to pose new questions again."

Her view of research involves a constant process of interaction and collaboration. In addition to working together with other researchers, for instance via open access, Shanahan also finds it important for her research to explore social change and always look for answers to the important questions of the moment. For instance, last year the Jacobs Center's z-proso team investigated behavior and problem management during the coronavirus pandemic. International teams were able to demonstrate that adolescents experienced increased psychological stress several months into the pandemic, which can have severe consequences if treated inadequately or with too much delay. Fortunately, there were young people in z-proso and other studies who learned new things about their resilience during the pandemic and were able to develop strategies for coping with difficult situations.

The coronavirus pandemic has revealed the need for action when it comes to mental health services for children and adolescents. Shanahan's research shows that psychological problems in children and adolescents can have severe consequences, even over the longer term. "Overall, as a society we would need to have a much higher level of awareness and more knowledge about mental health," she explains.

Text: Angela Odermatt | Editor: Caroline Hasler



One of our researchers

Réka Borbás becomes new representative of the passive members of the Jacobs Center

Réka Borbás was elected to represent the passive members of the JCPYD, and she will participate in the Jacobs Center governance committee meetings beginning in May 2021.

Exploring the world of brain development

Réka Borbás researches theory of mind at the Jacobs Center – in other words, the ability to put yourself in other's shoes and understand their perspectives and emotions. A child typically develops some initial aspects of this skill when they are pre-school age.

Since theory of mind is closely related to empathy and tolerance, it is especially important for social development. Reduced formation of theory of mind can be found in autism spectrum disorders, for instance.

Previous research into the biological basis of theory of mind was often based on observing individuals. Borbás chose another way and wanted to know what would happen if family members were researched together. In her latest project, she is working together with the NMR Kids Lab team to compare the brain activity of children and their mothers. She wants to find out whether theory of mind capabilities are similar within families.

Dealing with data and people

Borbás uses functional magnetic resonance imaging (MRI) data for her measurements. Participants lie in a tube and look at three images that depict the beginning of a story. Then they decide how the story should end. The MRI machine constantly measures which regions of the brain are engaged during this activity. It's important for Borbás that every measuring session is also a good experience for the people participating in her studies.

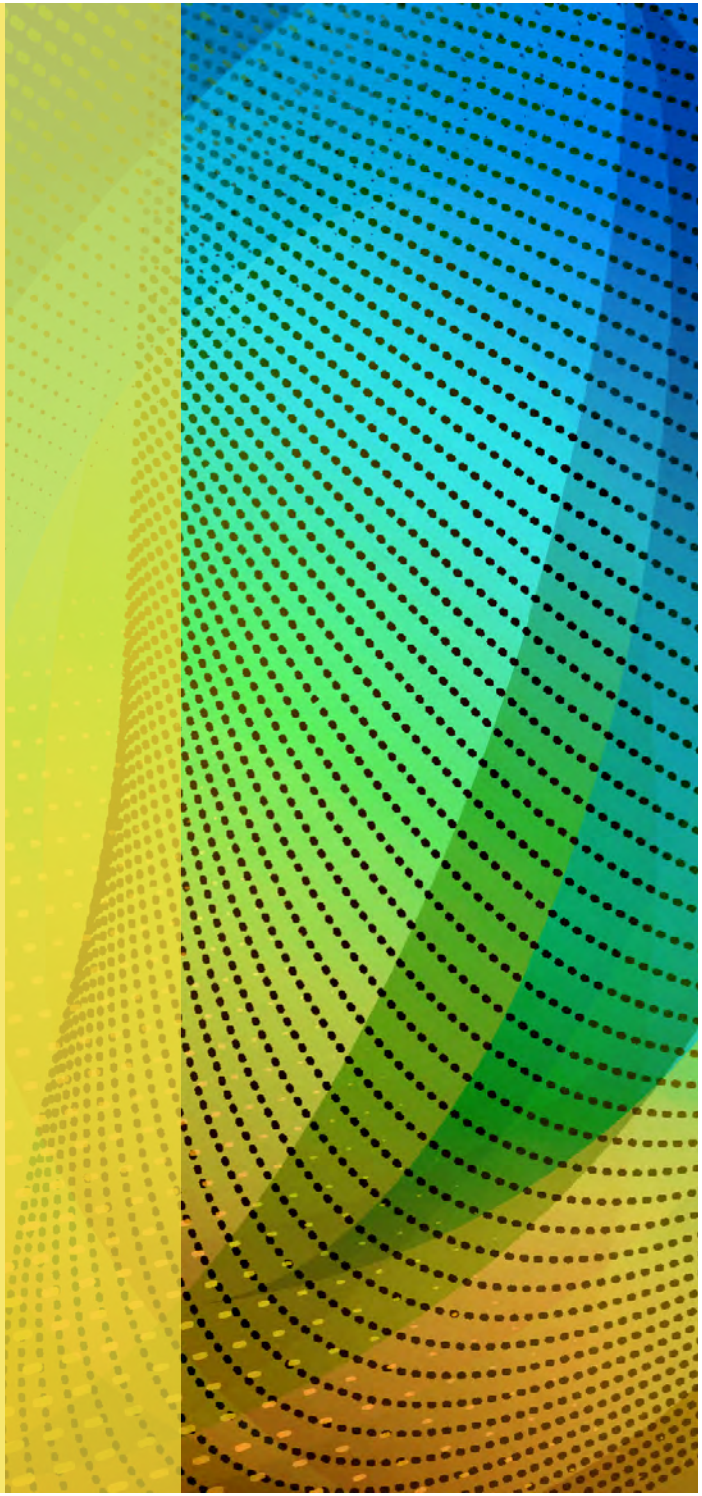
"For us it's about the people," she says. "We want to learn from families, but we also want to give them some exciting insights into the world of science."

For that reason, the team uses images and stories to keep the experience entertaining. Her strategy seems to work, as children seem fascinated by the MRI device and look forward to their next trip in the "rocket".

During the coronavirus pandemic, it became more difficult to take MRI measurements, prompting a rethink on the part of Borbás and her team. They used a questionnaire to find out how their test subjects fared during the pandemic. Now Borbás is looking forward to conducting new experiments again. There are plans for future studies to include entire families, especially fathers. "Children are part of a system. Research is increasingly moving in the direction of considering the system as a whole, not just individual kids. This makes our research more difficult, but also more interesting," she explains.

M Sc. Réka Borbás
Doctoral Research Associate
Developmental Neuroscience
in the team of Nora Maria Raschle

Text: Caroline Hasler | Editor: Olivia Meier



New third-party funded research projects and new international collaborations

Ana Costa-Ramón

Paternity leave and female labor force participation in Switzerland

Foundation for Research in Science and the Humanities (UZH);
CHF 30,000
Project partner: Anne Brenøe

Moritz Daum

Developmental Science Network Zurich

UZH Executive Board;
CHF 140,000
Project partners: Alexandra Freund, Reto Huber, Peter Klaver, Bea Latal, Elisabeth Moser Opitz, Michael Shanahan, Esther Stöckli and Susanne Walitza

How experience shapes infants' and children's gaze following

A cross-sectional and longitudinal study on the influence of facial masks on communicative development;
Foundation for Research in Science and the Humanities (UZH);
CHF 20,860
Project partner: Stephanie Wermelinger

Michelle Loher (Lilly Shanahan's lab)

Prevalence of and Pathways to Non-Medical Use of Prescription Medications Among Adolescents and Young Adults in Urban Switzerland

Swiss National Science Foundation – DOC.CH Scheme;
CHF 233,009

Nora Maria Raschle

STRESS: Transdisciplinary study of risk and resilience of stress exposure across the life-course

Hochschulmedizin Zürich; Collaborator/PI;
CHF 149,513

Adaptive Brain Circuits in Development and Learning

University of Zurich Research Priority Program, Collaborator/PI;
CHF 772,912

Intergenerational transfer effects on the human reading network in mother-child dyads

Zurich Neuroscience Network; PI;
CHF 113,367

Lilly Shanahan (new international collaborations)

Growing up in a pandemic: trajectories of mental health from childhood to early adulthood in the context of COVID-19

HRB (Health Research Board, Ireland);
PI: MacMillan;
Project partners: Anna MacFarlane, Maura Adshead, and Michael Shanahan

Ulf Zölitz

World Parenting Survey

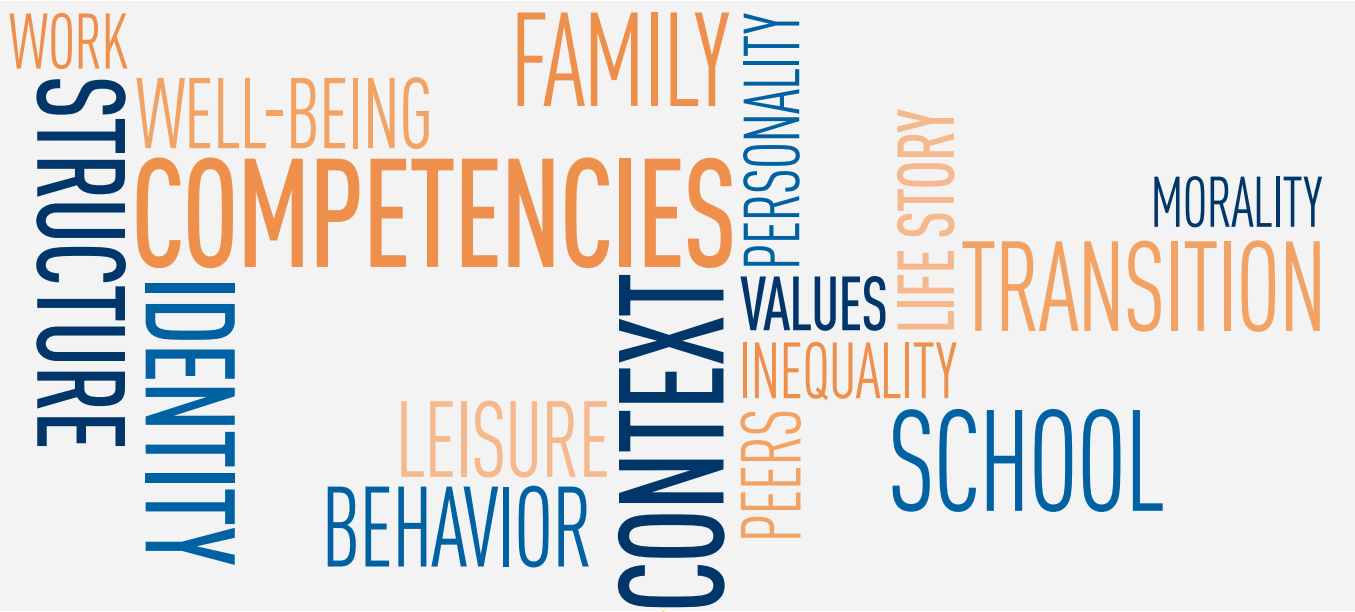
Swiss National Science Foundation;
CHF 474,760

Current research I

COCON
News from the COCON study

COCON Competence and Context
Schweizer Befragung von Kindern und Jugendlichen
Enquête suisse sur les enfants et les jeunes
Swiss Survey of Children and Youth

Early on in the coronavirus pandemic, countries that were severely impacted such as Switzerland put protective and containment measures in place to curb the spread of the virus.



Marlis Buchmann
Prof. em. Dr. Dr. h.c.
Principal Investigator
COCON study
Professor of Sociology

Jeanine Grütter
Dr.
Professor of Psychology
at University of Constance

In mid-March 2020, the Swiss government declared a lockdown of all non-essential businesses and decided to close all schools and institutions of higher education. By converting in-school to distance learning, young people faced new challenges in their educational environment, such as increased demand for self-directed learning, insecurities about their future and concerns about maintaining their grades.

These educational concerns, together with the health concerns of getting sick and infecting others, had the potential of putting a severe strain on adolescents' mental health.

This was even more likely as young people were not able to interact in person with their friends, who could be an important source of support in times of crisis. In collaboration with Lena Dändliker, Isabel Brünecke, Paola Citterio and Fabienne Lochmatter, this study thus investigated whether school closures and health-related uncertainties at the onset of the pandemic posed risk factors for adolescents' mental health. The study also examined whether perceived social support by parents, teachers, and friends functioned as protective factors.

The findings based on a survey of 1,562 adolescents with an average age of 16 years revealed three resilience profiles characterized by different configurations of concerns, perceived support and mental health, indicative of low (19%), average (47%), and high (34%) resilience (see the figure on the next page). Lower resilience was associated with higher educational concerns, lower perceived social support, and lower mental health.

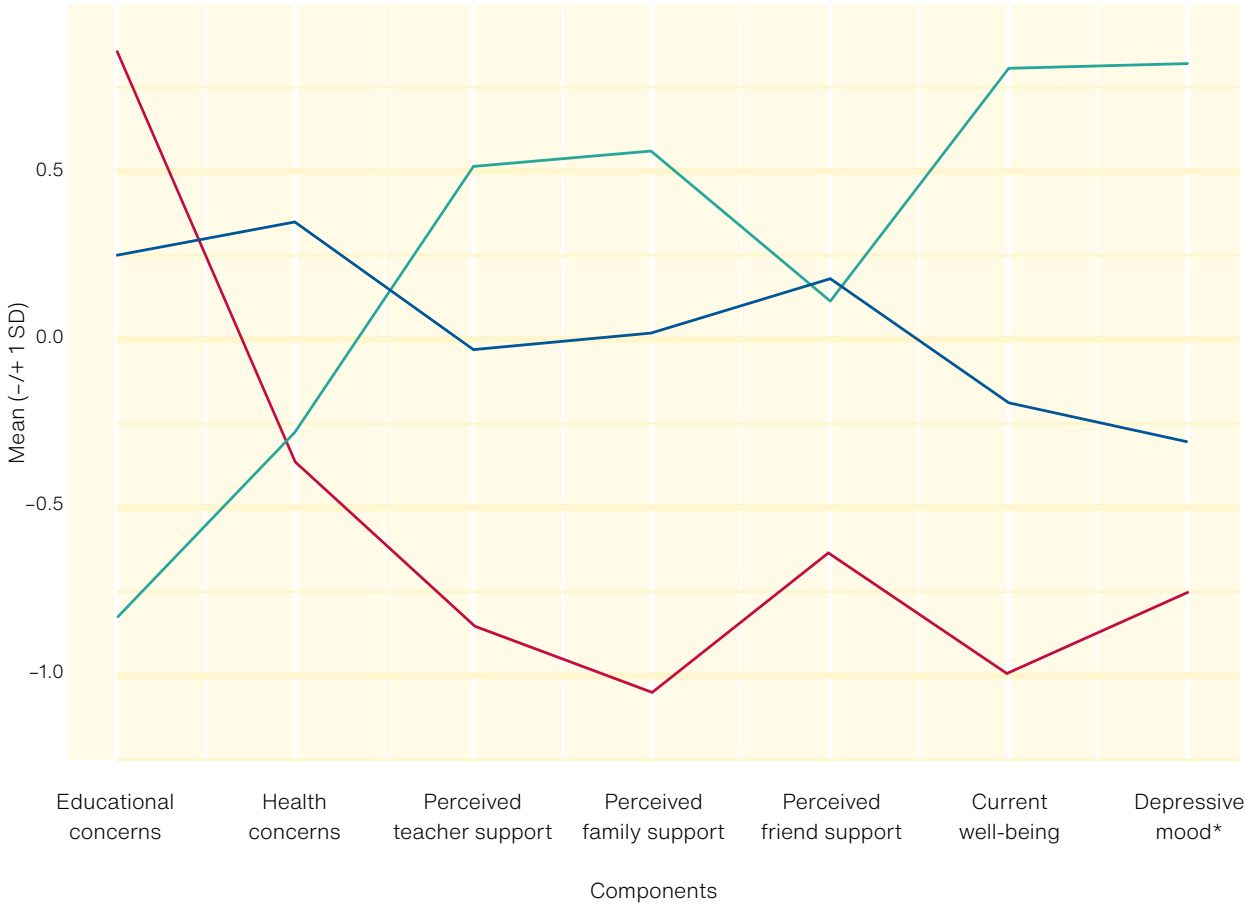
COCON website ↗

Conversely, high resilience meant lower concerns, higher support and higher mental health. Further analyses showed that educational concerns were a stronger predictor of adolescents' mental health than health concerns. They also pointed to a higher relative importance of perceived family support for adolescents' mental health relative to perceived teacher and friend support.

Taken together, the findings show that during the period of school closures, every fifth student reported a high level of concerns, perceived that their level of support was low and exhibited a low level of mental health.

They also shed light on adolescents' educational concerns as a strong risk factor of mental health. Finally, they underscore the important role played by perceived family support as a protective factor. As not all adolescents had access to this source of support, targeted assistance to students with high risk profiles in addition to scholastic measures is thus recommended.

Latent resilience profiles



Latent resilience profiles. Scales marked with an asterisk * were recoded so that higher values of depressive mood reflect lower depressive levels. All components were mean-centered.

Resilience profiles

Low (19.01%) Average (46.62%) High (34.37%)

Current research II

BUNAVIA
Creating knowledge to promote learning and thriving in Zurich schools

BUNAVIA is an interdisciplinary research project that brings together the different disciplines at the Jacobs Center – and beyond. It focuses on the question of how children become and remain inquisitive actors and how their childhood environment influences this development.

Prof. Dr. Moritz Daum, Dr. Doris Hanappi and Dr. Martin Kindschi provided insight into the current status of the project.

There are three themes at the core of BUNAVIA: First, the role of social networks of children, parents, and teachers; second, the role of parents' (cultural) values and the development of children's own identity; and third, the role of time use in promoting the capacity to learn.

BUNAVIA's research will focus on how personality, cognition, behavior and habits affect developmental and learning trajectories in the context of social relations and culture.

The age of the children in the study starts at about 4 to 5 years. BUNAVIA will follow these children into secondary school and employ questionnaire- and behavior-based methods as well as high-resolution measurements of activities and social relationships.

The BUNAVIA study focuses on the development and well-being of children and the promotion of their ability to interact with others in their social world, to organize themselves and to use this as a basis for developing their own potential in the best possible way. The fact remains that developing these skills in children, even in high-income countries like Switzerland, strongly depends on the context in which they grow up, for example the social status and origin of their parents.

BUNAVIA will investigate children's interactions with other children, parents' interactions with other parents, how parents structure the daily lives of their children, and which values they impart on their children along the way. For example, the study explores what is behind the term "social status" and what it means in terms of better understanding children's trajectories of learning and well-being. For example, in looking for similarities and differences in the

BUNAVIA website ↗

developmental trajectories of schoolchildren, the study asks: In what ways do children have similar developmental trajectories, and where does their development diverge?

What role do social and culturally specific practices play? Getting closer to an answer to these questions is the longer-term goal of BUNAVIA.

Last year the BUNAVIA research team reached a milestone: Working together with the educational planning office of the Canton of Zurich and the City of Zurich, a joint and harmonized sample design was developed that links the BUNAVIA sample to the upcoming Zurich Learning Progression Survey (Lernverlaufs-Erhebung [LVE]). The LVE is a longitudinal study planned over several years to dynamically record learning trajectories from the primary level onwards in Zurich schools. This means that BUNAVIA can secure access to Zurich schools in the short- and medium-term, giving us a solid basis to collect school, sociological and psychological data that will serve to explore developmental and learning trajectories as well as to initiate numerous interdisciplinary collaborations.

BUNAVIA brings together researchers from the Jacobs Center and various other research areas, both inside and outside the University of Zurich. A close collaboration is in place with the Social Networks University Research Priority Program (URPP). In collaboration with Professor René Algesheimer, for example, research is being conducted on how the social networks of families and children influence their socio-emotional development. Another collaboration is in place with the Children's Hospital (in particular with Professor Oskar Jenni and Professor Reto Huber), where a subproject is investigating how sleep habits and activity patterns in families are related to the well-being of the child, including their learning development. BUNAVIA provides the necessary data on the socioeconomic and cultural family context of the child as well as on critical events (e.g., death of a family member, separation of parents, loss of job) via regular survey waves, which are then combined using social contact data.

BUNAVIA has also been able to establish new collaborations internationally. For example, Professor Anna Baranowska from Umeå University will study how changes in children's activity patterns and relationships affect the impact of parental unemployment on children's well-being and development.

Next steps for BUNAVIA

In spring 2022, BUNAVIA will start its pilot phase with a focus on pre-testing the online family and household context survey, which is planned to feed into the cantonal learning trajectory survey. Another focus is on piloting the topic modules on the complex interplay between the activity patterns and mental health of different family members on the one hand and critical life events and social-emotional development on the other. The feasibility, user-friendliness and acceptance of the in-house questionnaire and web-based diary, developed by Professor Jonathan Gershuny and colleagues at the Centre for Time Use Research (CTUR) at University College in London, will be tested in a Swiss context. During this period, we will hold preliminary discussions regarding the extension of the study to the Canton of Vaud.
A further step is to conduct the first part of the core survey with 50 percent of the interested classes in fall 2022. The focus in 2022 will be on collecting baseline data at the start of the study along with information on time use and personality. The remaining 50 percent of classes will be surveyed in 2023, and together with the classes recruited in 2022, they will form the first two sub-cohorts in BUNAVIA.

Long-term studies of this kind are always about two things: Surveyors have to keep the burden on the schools as low as possible, and they should not overextend the patience of the participants. For long-term studies in particular, it is important to attract as many participants as possible to the study and to create the conditions for the highest possible panel retention.
For the moment, the foundations have been laid for the first data collection wave, and this is something that Doris Hanappi is looking forward to. "I see our role in the next few years as facilitating projects where we can create a longitudinal database that can be used across cantons, for example to compare results from the Canton of Zurich with another canton," she explains. "What differences and similarities do we find when we compare the daily routines of schoolchildren in different cantons? What do friendships look like in places where classes are reassembled every year compared to those where students stay in the same class for the first few years?"

All in all, BUNAVIA is collecting data that will be at the heart of cutting-edge research involving diverse scientists and the community at large over the coming years.

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Editor: Doris Hanappi

Current research III

ZYS
Zurich Youth Survey 2021

The Zurich Youth Survey (ZYS) has provided insights into general trends regarding school bullying, youth violence, delinquency and substance use since 1999 and was carried out for the fourth time in 2021. Despite the pandemic, over 90% of the originally selected classes participated in the latest survey.

Denis Ribeaud
Dr.
Senior Research Associate
Project Director z-proso

The Zurich Youth Survey (ZYS) was conducted for the fourth time in 2021 following survey waves in 1999, 2007 and 2014. Based on repeated, methodologically identical student surveys, ZYS provides insights into the longer-term development of the actual extent and structure of youth violence and its causes beyond the figures of official statistics.

As part of ZYS, representative samples of 1,043 seventh graders (age 13–14), 2,456 ninth graders (age 15–16) and 899 eleventh graders (age 17–19) were surveyed from May to July 2021 in the Canton of Zurich using tablet computers in classroom settings. Despite the challenges posed by the pandemic, the fieldwork staff led by Giordano Giannoccolo and Daniela Dombrowski did exceptional work and managed to enroll and survey more than 90% of the initially selected classes. They replaced the remaining 10% by classes drawn from the same sampling unit. Overall, a total of 266 classes, also including classes in vocational schools, participated in the study.

The study will offer insights into general trends regarding school bullying, youth violence, delinquency and substance use since 1999. As the first study of its kind in Switzerland, ZYS will also yield findings on trends in dating violence and cyber-bullying over the last seven years. Moreover, the study will help to better understand how young people were affected by the COVID-19 pandemic. The study report is expected to be released by June 2022.

The Department of Education, the Department of Justice and Home Affairs, and the Department of Security of the Canton of Zurich supported the ZYS study with a contribution of CHF 249,000. Other funding came from the Federal Social Insurance Office (CHF 14,000) and Swiss Crime Prevention (CHF 5,000). The Jacobs Center contributed around CHF 114,000 to the salary costs for project management.

Editor: Denis Ribeaud

Current research IV

Understanding social gradients in education
Insights into the project

In the research project "Understanding social gradients in education: A psycho-social-ecological framework", we examine how psychological, social, and institutional factors influence social disparities in educational outcomes, and whether these factors interact in shaping such disparities.

Kaspar Burger
Prof. Dr.
SNSF Eccellenza Professor
of the Jacobs Center
Professor of Sociology

The research project "Understanding social gradients in education: A psycho-social-ecological framework" examines how psychological, social and institutional factors influence social disparities in educational outcomes and whether these factors interact in shaping such disparities. To achieve this, we collect empirical data and perform secondary analyses of data from longitudinal cohort studies and large-scale international student assessments. Our research adopts an interdisciplinary approach, integrating theories and concepts from education, sociology, psychology and policy studies. The research team for this project consists of Francesca Mele, Kevin Schönholzer and myself.

We have been working on three main topics since the beginning of the project. First, using a cross-national comparative design, we analyzed whether more generous welfare states can support disadvantaged families, thereby minimizing the effect of social background on a child's educational achievement. Second, based on longitudinal data from the COCON study, we investigated how social background and human agency predict transitions into academic or pre-vocational tracks in the Swiss education system. The third study focused on a long-standing debate in social science research, namely exploring the relative importance of institutional structures and human agency for educational outcomes. The premise and outcomes of this study are described below.

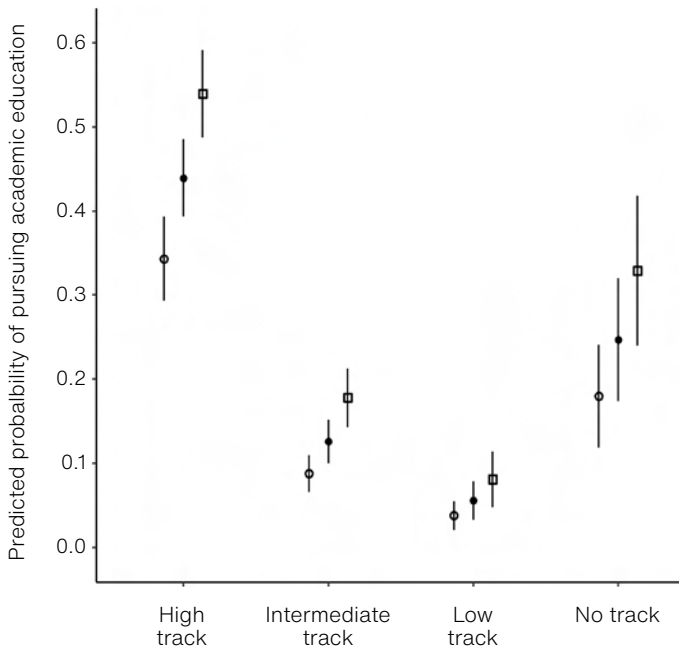
Education systems have been conceived of as sorting machines because of how they channel students into educational trajectories and help to determine their entry into the labor force. Once students embark on a given educational pathway, they are likely to follow a typical sequence of transitions, and their educational attainment and later career trajectories become predictable to some extent. Hence, despite their egalitarian ethos, education systems lay the foundations for later life inequalities. This particularly applies to stratified systems

Education and Human Development website ↗

that sort students into distinct, hierarchically differentiated educational pathways, which are also referred to as tracks. However, although education systems channel individuals into particular trajectories, these individuals set and pursue their own goals while moving through the system. At multiple, sequentially organized decision points, they choose which educational goals to engage with and which to disengage from, thereby pursuing their own educational projects and (to some extent) forging their own paths. This study sought to disentangle the relative importance of institutional structures and human agency – as manifested in students' persistence and effort dedicated to studying – for educational trajectories. Empirically, the study focused on the Swiss education system, which is an ideal case to study in this respect because it is very hierarchically differentiated but also relatively permeable, allowing both normative and non-normative trajectories to higher education through standard and non-standard pathways.

First, the study assessed the extent to which individuals' lower-secondary school track was associated with their probability of moving into an academic or vocational track at upper-secondary level, and second, how this predicted the probability of subsequently attending university. The study also examined how human agency influenced these probabilities. Results of a structural equation model showed that learners' lower-secondary track significantly predicted their probability of transitioning into academic education, whereas human agency played a minor, albeit non-negligible, role in this regard (see figure). In turn, pursuing an academic rather than a vocational program at upper-secondary level was associated with a 47 percentage point (or sixteen-fold) higher probability of subsequently attending university. It was relatively rare for individuals to follow non-standard pathways to university, irrespective of their level of agency. The education system channeled learners into different educational trajectories, but the power of the channeling effect varied across the different junctures of the system.

Predicted probabilities of pursuing academic upper-secondary education



Predicted probabilities of pursuing academic upper-secondary education, as a function of self-reported study effort (low = mean –1 SD; average = mean; high = mean +1 SD), and whether lower-secondary education was in a high, intermediate or low track, or in a school system that used no tracking. Whiskers depict 95% confidence intervals.

$N_{\text{high track}}$ = 1989
$N_{\text{intermediate track}}$ = 1578
$N_{\text{low track}}$ = 1118
$N_{\text{no tracking}}$ = 297

Reference

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Editor: Kaspar Burger

z-proso

Social development from childhood to adulthood

Phase six of the Zurich Project on Social Development from Childhood to Adulthood started in January 2021. This four-year stage of the project is supported by an SNSF grant of CHF 1 million, held by Denis Ribeaud as the main applicant and Lilly Shanahan as co-applicant.

Manuel Eisner
Prof. Dr.
Principal Investigator
z-proso study
Professor of Sociology

One of the main focuses of this phase will be a new wave of data collection now that participants have reached age 24. This will extend the existing main data collection waves that were conducted at ages 7, 8, 9, 11, 13, 15, 17 and 20.

This four-year stage of the project is supported by an SNSF grant of CHF 1 million, held by Denis Ribeaud as the main applicant and Lilly Shanahan as co-applicant. The originally requested budget of CHF 1.119 million was not awarded in full, but thankfully the Research Integration Fund of the Jacobs Center was able to contribute the remaining CHF 119,000. This support helps to maintain the quality of the fieldwork and to conduct four meetings of the z-proso International Research Network.

Further funding of CHF 100,000 was obtained from the Jacobs Center's Smaller Interdisciplinary Research Fund. This additional funding allows the research team to collect data on study participants who have children by 2022 and to develop a foundation for a long-term z-proso multigenerational study with a focus on the intergenerational dynamics of well-being. This new initiative will be led by Lilly Shanahan. We expect around 30–50 study participants with a child at age 24.

After four years in the z-proso team, Nicole Jehle moved on to a new stage in her career in August 2021. As the main coordinator of fieldwork and data documentation, she made an outstanding contribution to the success of z-proso. In July 2021 Céline Gloor joined the z-proso project as lead fieldwork coordinator, and Anna Tobler joined the team as co-fieldwork coordinator in December 2021.

In the second half of 2021, we began preparing the fieldwork for the ninth wave of the z-proso study, when study participants will be around 24 years old. This preparation included updating the contact database, preparing the questionnaire and all data collection instruments, and submitting the project to the appropriate ethics board at the University of Zurich.

z-proso website ↗

In November 2021, we re-contacted all study participants and provided them with information about the upcoming new wave. Data collection kicked off in March 2022 and is scheduled for completion in July 2022. In addition to measures used in previous waves, we will collect information about several new areas such as experiences with stalking and discrimination as well as the endorsement of conspiracy theories.

Also, we are continuing several collaborative projects with academic partners from the Jacobs Center, the University of Zurich and international institutions.

This includes a scenario-based element coordinated by Jean-Louis van Gelder at the Max Planck Institute for the Study of Crime, Security and Law and by Dan Nagin at Carnegie Melon University; a new wave of ecological momentary assessment led by Aja Murray at the University of Edinburgh; two cognitive tests along with hair sample analyses led by Boris Quednow and Lilly Shanahan at the University of Zurich; and tasks related to emotional functioning administered to the participants of the z-GiG study by a team that includes Todd Hare, Nora Maria Raschle and Ana Cubillo. Furthermore, in 2021 the z-proso team made substantial progress towards other major cornerstones of the study, namely the completion of the detailed coding of all youth justice records as well as a complete data dictionary and data documentation.

In 2021, a total of 26 articles based on the z-proso study were published in peer-reviewed journals.

Published work covered a broad range of topics including the developmental dynamics of mental health, the impact of COVID on the well-being of young adults, aggressive and violent behavior, legal socialization, and the dynamics of substance use from early adolescence to adulthood. The team has also been invited to coordinate a special issue focused on risk and resilience in early adolescence in the *Journal of Early Adolescence*. The contributions will be based on z-proso analyses. Annekatrin Steinhoff has taken the lead in coordinating the special issue.

A one-day symposium of the z-proso International Research Network, z-IReN, was held in August 2021. The online symposium included presentations of ongoing work by research teams in Barcelona, Cambridge, Edinburg, Freiburg im Breisgau, Utrecht and Zurich. It was followed by a dinner for the Zurich-based members of the network.

Editor: Manuel Eisner

Events and news

2021

January

Lilly Shanahan becomes chair of ethics commission

Prof. Lilly Shanahan is the new chair of the ethics commission of the UZH Faculty of Arts and Social Sciences.

Ethical Guidelines: Investigations may involve research on human subjects (human research) as well as research with human subjects (social research). Investigations conducted at the Psychology Department of the University of Zurich are only permitted if the Ethical Principles of Psychologists and Code of Conduct of the American Psychological Association (APA) and the Ethical Guidelines for Psychologists of the Swiss Society of Psychology (SGP) are followed. For studies conducted by other departments in the Faculty of Arts, their relevant guidelines must be followed.

Further information about this commission WEBLINK ↗

Journal Club on substance use

We had the inaugural meeting of our journal club on the broad topic of substance use, which brings together scholars from the Jacobs Center and from the UZH Psychiatric Hospital. A big thank you to our PhD student Lydia Johnson-Ferguson for organizing the meeting!

February

Zoom talk by Dr. Helge Liebert

Patient and prescriber responses to supply-side drug policy during the opioid epidemic

Dr. Liebert and colleagues study prescriber and patient behavior in response to supply-side restrictions during the opioid epidemic. To curtail prescription drug abuse, US states have implemented electronic Prescription Drug Monitoring Programs (PDMPs). Using administrative claims data from the largest commercial insurance association in the US, Dr. Liebert and colleagues find that PDMPs limit the proliferation of prescription opioids. Physicians respond to monitoring entirely on the extensive margin, limiting the number of patients they prescribe opioids to without adjusting the dosage or duration of prescriptions. This behavior cuts drug supply to chronic opioid users. In response, consumers try to evade the supply restrictions by acquiring prescriptions from out-of-state prescribers. Drug users substitute prescription opioids with heroin, causing a surge in heroin overdoses. The changing consumption patterns also affect health care utilization, reducing hospitalizations due to abuse of prescription drugs while increasing hospitalizations due to heroin abuse. The composition change is not cost-neutral: hospitalization costs increase by 3%. The drug substitution effects are persistent and of first-order magnitude.

Radio clip (SRF) by Nora Maria Raschle on the impact of the pandemic on young people

Short contribution by Prof. Nora Maria Raschle in “Heute Morgen” (SRF News, Audio)

Reactions to the federal government’s pandemic response plan (interview in German), SRF News

March

Zoom talk by Prof. Eliana La Ferrara

Apart but connected: online tutoring and student outcomes during the COVID-19 pandemic

In response to the COVID-19 outbreak, the governments of most countries ordered the closure of schools, potentially exacerbating existing learning gaps. This paper evaluates the effectiveness of an intervention implemented in Italian middle schools that provides free individual tutoring online to disadvantaged students during lockdown. Tutors are university students who volunteer for three to six hours per week. They were randomly assigned to middle school students from a list of potential beneficiaries compiled by school principals. Using original survey data collected from students, parents, teachers and tutors, we find that the program substantially increased students' academic performance (by 0.26 SD on average) and that it significantly improved their socio-emotional skills, aspirations and psychological well-being. Effects are stronger for children from lower socio-economic status and, in the case of psychological well-being, for immigrant children. (Joint paper with Michela Carlana)

Risk and resilience among young adults during the COVID-19 pandemic

Talk by Prof. Lilly Shanahan at the lunch seminar of the UZH Competence Center for Mental Health (CCMH)

Two presentations by Nora Maria Raschle at BrainFair 2021

Short lecture on March 18 on the psychological consequences of the pandemic and a lecture as part of the school program (both in German):

– Gehirnfunktion und psychosoziales Wohlbefinden von Kindern und Familien
– Manchmal braucht es MR Superhelden

WEBLINK ↗

Prof. Moritz Daum's interview for SRF 1 "Einstein"

Prof. Moritz Daum and Anja Gampe were interviewed by the SRF 1 "Einstein" program on how smartphones and voice robots influence our children.

Interview (in German)

WEBLINK ↗

Zoom talk by Dr. Cesar Leos-Toro

Managing the public health impact of non-medical cannabis legalization

In 2018, Canada became the second country in the world to legalize non-medical cannabis use, which provided a unique opportunity to rigorously evaluate a novel policy with important public health implications. At the time, preliminary evaluations of non-medical cannabis legalization were very limited due to a lack of baseline data and a lack of comparable data sources across jurisdictions and over time, as well as inadequate detail in traditional cannabis monitoring surveys.

The major questions plaguing decision makers about the impact of nonmedical cannabis legalization included concerns about increased use, risky use, transitions from illicit sources, and concerns about the impact of commercialization on social norms and use patterns, among other uncertainties.

Much of the empirical evidence that existed to inform Canadian conversations came from US states that had legalized non-medical cannabis in 2012. However, US states with liberalized policies continue to operate in much different policy settings given federal prohibitions on these products. There was an urgent need for evidence to inform specific regulatory measures that may determine the short- and long-term impact of legalization including effectiveness of labelling, marketing, and other product regulations. Furthermore, it was necessary for all of this to be Canada-specific and culturally tailored to its populations as there are important governance differences between Canadian and US contexts.

This presentation provided an outline of findings from a pilot project along with regulatory considerations for any country preparing to embark on this health policy experiment. The talk also highlighted the importance of measuring upstream policy measures to understand the impact on downstream behaviors affecting population health.

Dr. Jeanine Grütter accepted a professorship for Education and Inclusion at the University of Constance, Germany

Congratulations to our Jacobs Center post-doctoral researcher, Dr. Jeanine Grütter, who accepted a professorship for Education and Inclusion at the University of Constance in Germany. Dr. Grütter's research laboratory will be embedded in the Department of Empirical Educational Research. Her research projects have the aim of examining how schools can build on diversity in order to use the potential of every child.

WEBLINK ↗

April

JCPYD SRCD presentations

The Society for Research on Child Development (SRCD 2021) conference is one of the largest child development conferences worldwide, and several Jacobs Center researchers presented their work there.
SRCD 2021 Biennial Meeting WEBLINK ↗

Zoom talk by Prof. Dr. Hans Sievertsen

Antibiotics in early childhood and subsequent cognitive skills
Antibiotics are among the most commonly prescribed drugs for children. However, they may have side effects with long-term implications. Recent evidence based on animal experiments suggests that usage at early ages can adversely affect the development of cognitive skills. Prof. Sievertsen and his colleagues use Danish population-wide administrative data to link early childhood antibiotic use to school test results. Idiosyncratic variation across GPs in their propensity to prescribe antibiotics enables us to identify effects on cognition in a medically meaningful range.
Prof. Sievertsen and his team have found significant adverse effects that are not related to other patterns in GP behavior. Results are corroborated by sibling fixed-effects analyses.

Prof. Mike Shanahan: Editor-in-Chief

Prof. Mike Shanahan was appointed founding Editor-in-Chief of the journal *Discover Social Science and Health*, published by Springer Nature. Check out the new website and consider submitting a paper!
WEBLINK ↗

Réka Borbás becomes new representative of the passive members of the Jacobs Center

Réka Borbás was elected to represent the passive members of the JCPYD, and she will participate in Jacobs Center governance committee meetings beginning in May 2021.

May

Zoom talk by Prof. Dr. Jeanine Grütter

Development of children and adolescents' reasoning about social inequality
Social inequality is pervasive in many societies, with status hierarchies typically originating from and being perpetuated by the early emergence of intergroup discrimination. Developmental psychologists have begun to understand the origins of the psychological processes that produce these inequalities (Brown, 2017; Ruck et al., 2019). In this talk Prof. Grütter presented findings on children's and adolescents' perceptions and evaluations of status hierarchies and social inequality, their resource allocation strategies, and their motivation to address present inequalities and reduce intergroup discrimination. Thereby, Prof. Grütter will discuss the role of peers, teachers and parents as contextual influences and potential target points for promoting the motivation to address social inequality among future generations of youth.

Zoom talk by Dr. Nils Schuhmacher

Early helping behavior – Investigating the social origins of early prosocial and moral development
In this talk Dr. Schuhmacher presented a multi-method approach for investigating the social origins of early prosocial behavior such as helping, comforting and sharing.
Dr. Schuhmacher showed experimental, longitudinal and (preliminary) experience sampling data that provides convergent evidence to answer the question of how early social experiences shape prosocial development. In particular, these studies investigate the role of prosocial modelling and parental scaffolding in the development of helping behavior during the second year of life.
Finally, Dr. Schuhmacher will present and discuss different ideas on why early prosocial development – during toddlerhood and preschool years – is potentially connected to the emergence and development of children's moral skills such as moral reasoning, moral emotions, and moral decision making.

Prof. L. Shanahan – plenary talk at FOPH/BAG stakeholder conference

Prof. Lilly Shanahan gave a plenary talk at the 6th Stakeholder Conference – National Strategy for the Prevention of Non-Communicable Diseases (NCD) – of the Swiss Federal Office of Public Health (FOPH/BAG). The title of her talk was: "Early mental and social well-being as a foundation for later health."
PDF ↗

June

BAG/FOPH interview with Prof. Lilly Shanahan

Prof. Lilly Shanahan was interviewed by the Swiss Federal Office of Public Health (BAG/FOPH). To read this interview about mental health in childhood and adolescence (in German)

INTERVIEW ↗

Start-up grant for Michelle Loher

Congratulations to our research assistant, Michelle Loher (Risk & Resilience area, PI: Lilly Shanahan), who was recently awarded a start-up grant.

Congratulations to our research assistant, Michelle Loher (Risk & Resilience area, PI: Lilly Shanahan), who was awarded a start-up grant for CHF 20,000 by UZH to write a SNSF predoctoral fellowship (Doc.CH) application.

Jacobs Center in the media

"We need a change in culture and gender norms,"
Oec. Magazine UZH

E-PAPER WEBLINK ↗

July

Prof. Ana Costa-Ramón receives a grant from the Foundation for Scientific Research at the University of Zurich

Congratulations to our JCPYD economics professor Ana Costa-Ramón for receiving a grant of CHF 30,000 from the Foundation for Scientific Research at the University of Zurich, for her research project entitled "Paternity leave and female labor force participation in Switzerland", a joint project with Prof. Anne Brenøe and Ursina Schaede.

August

As of August 1, the Jacobs Center has a new director

Interview with Moritz Daum in UZH News

The new director of the Jacobs Center, Moritz Daum, talks about his plans, goals and wishes in an interview with UZH News.
"Research isn't a one-man show", UZH News

WEBLINK ↗

zIReN Virtual Meeting, 2021

We greatly enjoyed the virtual meeting of the z-proso International Research Network (zIReN) in August 2021!

The network currently spans researchers from 27 universities who work with the Zurich Study on the Social Development from Childhood to Adulthood (z-proso). Thank you to all who participated in this meeting and we hope to see you in person next year!

SLIDESHOW ↗

September

Prof. Nora Maria Raschle's Interview in SciComm Palaver Podcast: Science and Science Communication

Prof. Nora Maria Raschle was a guest in Sabine Gysi's audio podcast series, SciComm Palaver. In her interview, Prof. Raschle talks about research studies with children and families, science and science communication, what constitutes a good expert and her efforts of cartooning for science.

INTERVIEW ↗

In the series SciComm Palaver, science communication expert Sabine Gysi talks with various experts specialized in scientific topics and explores, from their different perspectives, what they think is key when communicating and creating a dialogue about science.

FOR MORE EXCITING PODCASTS ↗

Plamina Dimanova from the NMR Kids Lab participated in the annual symposium of the Zurich Neuroscience Network

Doctoral student Plamina Dimanova from the NMR Kids Lab participated at the annual symposium of the Zurich Neuroscience Network and presented a poster with the team's newest findings:

Mother-child similarity in brain structure: A comparison of structural characteristics of the brain's reading network

Joint IZA & Jacobs Center Workshop on the Consequences of COVID-19 for Child and Youth Development

The spread of COVID-19 is the most severe public health crisis in recent history. The joint IZA & Jacobs Center Workshop on the Consequences of COVID-19 for Child and Youth Development brought together over 40 researchers for a two-day online workshop to discuss the consequences of the COVID-19 crisis on the development of children's cognitive and socio-emotional skills, parenting behavior and inequality in educational success.

SLIDESHOW ↗

October

Talk by Dr. Annekatrin Steinhoff in 2nd Luzern Addiction Forum

Dr. Annekatrin Steinhoff presented new work by the Risk & Resilience area of the Jacobs Center at the 2nd Luzerner Suchtforum (Addiction Forum).

Dr. Annekatrin Steinhoff recently presented new work by the Risk & Resilience area of the Jacobs Center at the "2nd Luzerner Suchtforum (Addiction Forum)." The title of her talk was "Polysubstance use: Risk factors and predictions."

PROGRAM ↗

In the media

Asking about Trouble, UZH Magazin

WEBLINK ↗

Lecture series: "Science in Times of Corona – Research on and during the corona pandemic at the Oerlikon Campus"

Two researchers from the Jacobs Center participated with lectures

Dr. Lisa Wagner: Did the first wave of the COVID-19 pandemic lead to changes in resilience?

Réka Borbás, MSc: Brain correlates and mental well-being in adults, mothers and children during the first year of COVID-19.

November

Talk by Prof. Dr. Terrie Moffitt

The Jacobs Encounters in Developmental Science from an Interdisciplinary Perspective (J.E.D.I. Symposium) – Measuring the pace of biological aging in young people: Prevention opportunities

Our team has developed a new measure of an individual's personal pace of current biological aging. It is designed to detect change in randomized clinical trials aiming to extend years of healthy life. To develop the new measure, we tracked decline in seven organ systems by repeatedly assessing 19 biomarkers at age 26, 32, 38 and 45 in a population-representative 1972 birth cohort of 1000 individuals. The measure, now implementable as a blood test called DunedinPACE, is the only aging measure trained on biological change. It has strong test-retest reliability and strong predictive validity in cohorts of men, women, different ethnic groups and age groups. The talk will explain the advantages DunedinPACE offers over methylation clocks. That people born in the same year are now aging at very different rates has implications for how we think about aging as a social justice issue.

Prof. Kaspar Burger gave a keynote at TREE Conference

4th International TREE Conference (Transitions from Education to Employment): Life Course in the Making

Prof. Kaspar Burger gave a keynote on 11 November at the 4th International TREE Conference: "Life Course in the Making." The title of the talk was "Analyzing micro-level processes and macro-level structures that shape educational trajectories."

To mark its 20th anniversary and the first release of data from its second cohort, the Swiss TREE (Transitions from Education to Employment) multi-cohort survey and the University of Bern co-organized the 4th International Conference on Transitions in Youth and Adulthood. The conference focuses on the multi-dimensionality, intersectionality and societal embeddedness of various life course stages and transitions.

More information WEBLINK ↗

Public inaugural lecture: Prof. Nora Maria Raschle

"How does science become relevant? Interdisciplinarity, Citizen Science, Knowledge Transfer – A discussion of the societal demands and criteria that science faces"

Prof. Nora Maria Raschle's inaugural lecture took place on Saturday, 13 November, in the format of a panel discussion on how science becomes relevant.

More information WEBLINK ↗

Dr. Helge Liebert – Swiss Award for Educational Research

Congratulations to our Jacobs Center economist, Dr. Helge Liebert, who was a recipient of the 2021 Swiss Award for Educational Research 2021, along with his colleagues Beatrix Eugster and Simone Balestra! The team received the award for its work on the integration of students with special educational needs in schools. With their work, the researchers provided new insights on the integration of students with special educational needs in Switzerland. For example, their findings have implications for assignment practices at schools. The award was presented at a ceremony in Bern attended by the head of the Federal Department of Economic Affairs, Education and Research, President Guy Parmelin, and the president of the Swiss Conference of Cantonal Ministers of Education, Cantonal Councillor Dr. Silvia Steiner (Zurich).

More info about the award and pictures of the award ceremony WEBLINK ↗

Information about the award, the press release and the award-winning publication WEBLINK ↗

In the media (in german)

Hohe Einkommen, hohe Beschäftigung, UZH News

WEBLINK ↗

December

New research report by Ulf Zölitz and Josef Zweimüller: “UZH Graduates on the Swiss Labor Market”

In their new research report Ulf Zölitz & Josef Zweimüller document the success of UZH graduates on the Swiss labor market. UZH graduates earn high salaries and are rarely unemployed.

More information about the report PDF ↗

In the media (in german)

Drogenkonsum in Zürich: Die Geschichte eines Absturzes, NZZ

WEBLINK ↗

Drogenkonsum in Zürich: Substanzkonsum ist normal geworden (Interview with Boris Quednow), NZZ

WEBLINK ↗

The Jacobs Center team

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Organizational chart
Jacobs Center for Productive Youth Development (JCPYD)

University of Zurich[UZH] | JACOBS FOUNDATION

JACOBS CENTER

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Moritz Daum (Psychology) | Michael Shanahan (Sociology) | Ana Costa-Ramón (Economics) | Nora Maria Raschle (Guest)

Office
Stephanie Kernich

Management Committee

Director = Chair of the Management Committee | all chairs of the three departments at JCPYD: sociology/psychology/economics | representation of passive members (advisory function)

Sociology | **Psychology** | **Economics**

University of Zurich[UZH]

JACOBS CENTER

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