LIFE Newsletter Volume 16, No. 3
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Editorial

Dear Readers,

This issue of the newsletter begins with an interesting article by UZH alumna *Ebru Ger* on boosting your creativity. She gives useful hints on how you might be able to do so. We follow with information on the latest winner of the LIFE Outstanding Alumni Award, *Alvin Thomas*. Congratulations!

The following sections focus on the first in-person LIFE event for quite some time, namely the Fall Academy. It was recently held in Berlin (see below!) and was greatly enjoyed by all participants. As a highlight, it involved a celebration of the 20-year LIFE anniversary with several of the first-cohort fellows. We give a brief historical account of LIFE before presenting what some of them have to say about LIFE in retrospect. Two new fellows, *Urmimala Ghose* and *Isabelle Moore*, then report on their experiences of the academy. The commencement ceremony is also documented. The wide range of fellows' research can be witnessed in their abstracts.

Hudson Golino, LIFE faculty in Charlottesville specializing in methods, then answers our ten questions and provides a rich list of publications that will be of great interest to many of you.

LIFE Zurich has four new faculty members whom we introduce as well as the eight new fellows in Berlin, Charlottesville, and Zurich. Welcome to everyone new to LIFE! As usual, we present recent LIFE publications before updating you on the latest news from all four LIFE sites.

Finally, we thank all contributors, and especially *Steve Boker* and *Daniel Sax* who took most of the photos in this issue. We wish everyone a happy holiday season!

Julia Delius

Photo: Daniel Sax, MPIB

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Reminder

Fellows, alumni, and faculty, please keep us informed about your LIFE-relevant news (e.g., awards, career moves)! Fellows and alumni, please check that your web profiles are up-to-date—they are often the first thing that pops up when your name is googled! Send your updates to delius@mpib-berlin.mpg.de

LIFE Website: https://www.imprs-life.mpg.de

Twitter: @imprs_life

How to Boost Your Creativity

Ebru Ger, UZH alumna, now Postdoc, Institute of Psychology,
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As researchers, it is our job and passion to come up with new and exciting ideas to investigate, and, if we ever get the chance to actually conduct research about it, to write up our findings in a clear and elegant way. For both, we need to fire up our creativity.

I have been experiencing an interesting boost of creativity, which comes about by the most brilliant research and even business(!) ideas while lying calmly in bed, right before I fall asleep, which I immediately forget afterwards if I don't wake myself up and note them down somewhere. I even came up with the idea to write about this topic in this issue of the LIFE newsletter during one such episode. Consequently, I started searching the literature about this interesting phenomenon. It turns out that I am not the only one experiencing such bouts of creativity, and many renowned scientists (see Table 1 in Gandy et al., 2022, for some names) and authors (e.g., Charles Dickens; da Mota Gomes & Nardi, 2021) have actually exploited dreams, as well as psychedelics (which I have not gone into, luckily) to fuel their distinguished discoveries and masterpieces.

In addition, I started having 1-hour workout sessions during my lunch break on some working days. This also helped me break my lousy early afternoon fatigue and induced what felt like a boost to my creativity, or at least concentration. I went on searching the literature further for this potential boosting effect of physical exercise. In this article, I bring together some of the research findings I found related to these potential boosters of creativity with the hope to provide some handy tips. It is by no means an exhaustive review but the product of my recent genuine interest in the subject matter.

Sleep

I begin with the first phenomenon. It is a relatively well-established finding that sleep helps with memory consolidation (Stickgold, 2005), and rapid eye movement (REM) sleep enhances creative ability (e.g., Walker et al., 2002). In comparison, very little is known about the first stage of non-REM sleep, namely, the period right before falling into deep sleep as I was describing above. Recent evidence has shown that this stage of wake-asleep midway brings about spontaneous dream-like thoughts that are a creative combination of recent waking experiences and weakly connected memories. It is also known as "hypnagogia" and defined as a "semi-lucid" state where individuals experience simultaneous mind-wandering and consciously recognizing creative elements in these surges of thoughts.

A recent study by Lacaux et al. (2021) introduced a number reduction task to 103 people. In this task, participants were presented with 8-digit sequences consisting of the numbers 1, 4, and 9. Proceeding step by step from left to right, they needed to find the solution by applying the following rule: if the digit is the same as the next digit, take that digit, if it is different, take the remaining third digit. For instance, in a sequence of 9-9-1-1-4-1-4-1, starting with the leftmost 9, because the next is also a 9, take the 9. Now, as the next is 1, and 9 and 1 are different, take the remaining digit 4. Moving on, as the 4 and the next 1 are different, take the remaining digit 9, and so on (see Figure 1). The trick was that there was actually an easier hidden rule that made it much quicker to solve. Namely, the second answer was always the final solution, which is 4 in the example sequence above.

Participants first had a pretest phase where they solved two blocks of 30 trials, in which those who already found the hidden rule were excluded. After a break of 20 minutes during which their vigilance was monitored, participants relaxed with eyes closed while holding an object in their hand. If the object fell, participants were to immediately speak out the thoughts they had had right before. If not, they reported their thoughts at the end of the break. They then had a posttest phase of nine blocks of 30 trials. Participants were grouped into three based on their vigilance state during the break: wake (those who were awake

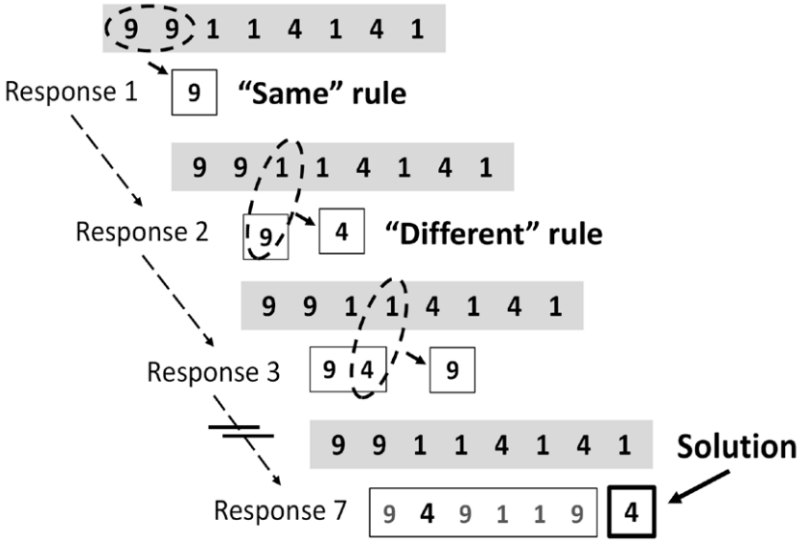

Figure 1. Number reduction task according to Lacaux et al. (2021).

during the entire break), N1 (those who had at least a 30-s period of N1, but no deep sleep), and N2 (those who had at least a 30-s period of stage 2 NREM sleep). At the end, participants explicitly reported if they had found the hidden rule, which was confirmed by the decrease in the response times and increase in the accuracy of their solutions.

The proportion of participants who found the hidden rule in the posttest was significantly higher in the N1 group than in the N2 (5.8 times) and wake groups (2.7 times), with no difference between the latter two. Over and beyond this grouping, medium levels of alpha power and low levels of delta power in the particpants' EEG were associated with highest rates of the creative solution. Moreover, the extent of hypnagogia reported by those who dropped the object during the break was significantly larger than by those who did not drop it.

In short, if you want to have creative solutions, wake up right before falling into deep sleep! Apparently, there is even a gadget for this (see https://youtu.be/joYEbU2R57Q). Or use the classic style of Edison and go to bed holding an object that will make a sound when dropped that is loud enough to wake you up (but will hopefully not break!).

Interestingly enough, waking yourself before falling asleep is detrimental to your memory consolidation despite being a boost for creativity (Lacaux et al., 2022). So, you might need to prioritize your needs, whether you want to get creative or memorize information before deciding to try out this experience.

A study on problem-solving found that sleep is more effective than incubation (i.e., not thinking about the problem for a period of time) or no delay, only for difficult but not easy problems (Sio et al., 2013). Theories also highlight the interplay of both non-REM and REM sleep in creative problem-solving, with non-REM sleep mainly promoting the abstraction of gist information (like the hidden rule in the experiment by Lacaux et al., 2021), and REM sleep mainly promoting novel connections (Lewis et al., 2018). Perhaps it would be clever to combine such self-waking instances before falling into deep sleep with a good night's sleep to get the most out of using sleep to boost creativity.

Physical activity

Moving on to the second phenomenon: Although there is ample evidence for the benefits of physical exercise on cognitive functioning (Bherer et al., 2013; Etnier et al., 2019), its effect on creativity is studied less well. Bollimbala et al. (2021) found that 15 minutes of fun physical activity (dancing) lead to both higher convergent creativity, namely, coming up with a single accurate solution to a problem, and divergent creativity, namely, coming up with various solutions to a problem, both right after the activity and at the end of the workday compared to another fun non-physical activity (socializing). Walking, especially outside, was found to boost divergent creativity compared to sitting (Oppezzo & Schwartz, 2014). Another very interesting study, examining the issue at hand

from an embodied cognition perspective, found that squeezing a soft ball increases divergent creativity while squeezing a hard ball increases convergent creativity (Kim, 2015). Divergent creativity was assessed by originality, fluency, and flexibility in the answers to items such as listing all possible uses of a brick or the implications of humans having 6 rather than 5 fingers on each hand. Convergent creativity was assessed by a Remote Associates Test, which presents participants with three words (e.g., cookies, heart, sixteen) and asks them to find a fourth related word (e.g., sweet) in 10 trials.

Not only laboratory-induced physical exercise but also everyday physical exercise has been shown to enhance creativity. Everyday bodily movements assessed by acceleration sensors, positive-activated affect (assessed by how participants rate themselves on the traits "active", "alert", "attentive", "inspired"), and divergent creativity were found to be interrelated (Rominger et al., 2020**)**. Interestingly, the relationship between bodily movements and creativity was not mediated by positive-activated affect. This means that the positive effect of physical activity on creativity is not simply because of the positive mood that this physical activity brings about.

Conclusion

In sum, both sleep and physical exercise appear to have intricate and positive effects on creativity. To cut a long story short, my advice is: Go for a walk outside and dance a little during the day. At night, put a soft ball in one hand, a hard ball in the other, go to bed, start squeezing the soft ball in the hand on the inner side of bed, and squeezing the hard ball with the other hand that is dangling out of the bed. And you will perhaps have that magic idea for your next *Nature* paper! You can thank me later.

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Winner of the

LIFE Outstanding Alumni Award 2022

Alvin Thomas

UVA alumnus, now Assistant Professor of Human Development and Family Studies in the School of Human Ecology at the University of Wisconsin–Madison, USA.

He will receive the award and give a lecture at one of the next LIFE academies.

Congratulations, Alvin!

Source: arrowstar photography

Selected Publications

Thomas, A., Assari, S., Odukoya, E., & Caldwell, C. (2022). Efficacy to avoid violence and parenting: A moderated mediation of violence exposure for African American urban-dwelling boys. *Development and Psychopathology*. Advance online publication. https://doi.org/10.1017/S0954579422000098

Thomas, A., Jing, M., Chen, H. Y., & Crawford, E. L. (2022). Taking the good with the bad? Social media and online racial discrimination influences on psychological and academic functioning in Black and Hispanic youth. *Journal of Youth and Adolescence*. Advance online publication. https://doi.org/10.1007/s10964-022-01689-z

Thomas, A., Wirth, J. C., Poehlmann-Tynan, J., & Pate, D. J. (2002). "When she says Daddy": Black fathers' recidivism following reentry from jail. *International Journal of Environmental Research and Public Health, 19*(6), 3518-3542. https://doi.org/10.3390/ijerph19063518

Celebrating the first-cohort fellows at the Fall Academy: Andreas Wilke, Rui Mata, Oliver Huxhold, Nicole Hess, Christina Limbird, Christina Röcke, Sabine Schäfer, & Kate Fiori

Twenty Years of LIFE (2002–2022): Updates by First-Cohort Fellows from Ann Arbor and Berlin

LIFE was founded in 2002 by Paul B. Baltes, Max Planck Institute for Human Development, Berlin, and Jacquelynne S. Eccles, University of Michigan. In Berlin, Freie Universität and Humboldt-Universität were involved as partner universities from the outset. Two years later, the University of Virginia joined with John R. Nesselroade as its speaker. In 2008, the University of Zurich followed suit, with Alexandra M. Freund as its speaker.

In numbers: Today, 54 fellows, almost 280 alumni, and 114 faculty from all four sites are members of the LIFE community!

To celebrate 20 years of LIFE at the recent Fall Academy in Berlin, we invited all first-cohort fellows. Eight were able to attend. Christina Röcke (MPIB) and Kate Fiori (UM) gave a great speech with many photos and reminisced about their early experiences. John Nesselroade sent a moving video and Patti Reuter-Lorenz read out a wonderful message from Jacque Eccles.

For this edition of the newsletter, we decided to ask the 18 first-cohort fellows, with whom everything started, the following questions:

- Where are you now?
- What does LIFE mean to you?
- What would you like to say to the current fellows based on your LIFE/life experience?

Here are the answers of those who responded.

Helen Baykara-Krumme, FU alumna. We moved to the Ruhr Area of Germany. I am now at the University Duisburg-Essen, Institute of Sociology. I have a professorship in sociology with a focus on migration and participation. LIFE made it possible for me to do my doctorate. I would especially like to thank my doctoral supervisor Martin Kohli for this wonderful opportunity and his trusting guidance during that time. Julia Delius was an important contact person for me, it was good to know that she was always there for us. I had my office at FU, but I have fond memories of our meetings and (private as well as) scientific discussions at MPIB. As for advice to new fellows: Stay confident, don't worry so much about your future path in life, enjoy the moment wherever you may be and work. When a door closes, new doors open and new opportunities arise.

Jaap Denissen, HU alumnus. I am now a Full Professor of Developmental Psychology (Chair: Psychological Growth and Maladjustment) at Utrecht University in the Netherlands. LIFE offered me the opportunity to start my academic career (without the LIFE doctoral stipend, I would probably not have been able to stay in academia). Once I was in, I was hooked: Wonderful people and friends, inspiring teachers and mentors, and the opportunity to visit amazing places. I will never forget my three-month Michigan visit, spending lots of time with Jessica Garrett and writing my very first (and still favorite) paper with Nicole Zarrett and Jacque Eccles. Happy memories of the Blind Pig! The experience kept growing once I joined LIFE as a faculty member from Berlin and supervised LIFE PhD students (Roos Hutteman and Michael Dufner). So the program has obviously meant a lot to me. It is always difficult to give advice because there are a few general rules in LIFE/life (I have learned this from Paul Baltes himself). Perhaps it's a cliche, but at least enjoy the ride, and make good use of the plentiful learning opportunities that LIFE/life offers you! (And visit the Blind Pig when in Ann Arbor!!)

Natalie Ebner, MPIB alumna. I am now a Full Professor of Psychology at the University of Florida in Gainesville. For me, LIFE is a group of people I felt and still feel strongly connected to, having interacted with them closely in the formative early years of my career and life. Also,

LIFE has provided me with both a broad and a deep science knowledge base and an excellent methodological toolset to tackle significant and innovative research questions.Throughout my entire career I kept crossing paths with fellows and faculty I had gotten to know through LIFE; in some instances, this crossing of paths was planned but in many other instances, it came as a pleasant surprise and often opened new opportunities professionally and personally on the way and made so clear to me how important and precious these connections are that I made through LIFE.

Kate Fiori, UM alumna. I am now a Professor and Chair of Undergraduate Psychology at the Derner School of Psychology at Adelphi University in Garden City, NY. Without the LIFE program, I never would have met my life-long collaborators, including fellow alum Oliver Huxhold! I would tell the current cohort of LIFE Fellows: enjoy this amazing opportunity while it lasts! I wish I could go to an Academy every year.....

Nicole Hess, HU alumna. I am now at Washington State University, Vancouver, Anthropology Department. LIFE showed me that multidisciplinary helps you: generate better scientific hypotheses, be more open-minded to alternative explanations on your particular topic, and be more willing to read a broader range of literature. I would recommend that current fellows ask those in other disciplines what their perspective is on your research topic.

Oliver Huxhold, MPIB alumnus. I am currently working at the German Centre of Gerontology and coordinate the research efforts in the institute that address social relationships and health. LIFE has been a stimulating learning environment. Moreover, in the context of the program I formed friendships and collaborations I cherish to this day. My message to fellows: Be open minded. I took many inspirations to further develop my research agenda from fields that were not my own.

Rui Mata, MPIB alumnus. I am a Professor at the Faculty of Psychology at the University of Basel, Switzerland. LIFE was a great gift for me as an early career researcher – it offered the opportunity to meet many like-minded people as well as learn about approaches beyond my direct area of research. My advice to current LIFE fellows is as follows: Make the most of the intellectual exchange provided by the rich LIFE network!

Thorsten Pachur, MPIB alumnus. I am a Professor of Behavioral Research Methods at Technical University of Munich. LIFE offered a wonderful opportunity to think about behavior and development from an interdisciplinary point of view, and to experience the value of connecting macro and micro, as well as ontogenetic and phylogenetic perspectives. What an inspiring time! Current fellows, get to know people and build a network, make friends(!), get passionate about research.

Christina Röcke, MPIB alumna. I am the Managing Scientific Director of the newly founded Healthy Longevity Center at the University of Zurich (which currently comprises, among others, the University Research Priority Program "Dynamics of Healthy Aging" and the Center for Gerontology). LIFE means being part of an international, multidisciplinary, and multi-institutional network of researchers and individuals interested in lifespan development, a strong foundation in

the theories and methods that have shaped and are shaping the field, and a host of wonderful colleagues and friends. My message to current fellows: Make friends, be open to the other disciplines represented in LIFE rather than considering those as irrelevant for your own work. Begin building a scientific and collegial network across all participating institutions that you will be able to draw upon in the years to come. Appreciate the opportunity to discover scientific and other professional approaches in very different cultural and university contexts. Invest in a strong theoretical knowledge foundation in lifespan developmental psychology and acquire a core understanding of analytical approaches to both long-term and intensive longitudinal data. If possible, learn how to run a selection of such models. Enjoy your PhD years! As stressful as they can seem at times, they will remain a unique and formative period in your professional and personal development.

Dennis Rünger, HU alumnus. I am a Principal Statistician in the Department of Medicine Statistics Core at UCLA. Most of my work these days is in the field of health economics. I can't think of anything to write related to the LIFE program. A lot of water has flown under the bridge and I feel that my post-LIFE career path was largely unrelated to LIFE. But I really would have liked to attend the recent 20-year anniversary!

Sabine Schäfer, MPIB alumna. I am a Professor for Movement Science at Saarland University now. I very much appreciated the opportunity to get to know faculty and fellows from Michigan and from Berlin Universities. The seminars were very interesting and broadened my perspective on many topics. Networking and establishing contacts via the LIFE program turned out to be an invaluable resource throughout my life as a researcher. My message to current fellows: Enjoy both (life and LIFE), try to stay open-minded and learn as much as you can, keep your enthusiasm about new discoveries, and don't forget to party...

Rebecca Utz, UM alumna. I am a Professor and Associate Dean of Research and Graduate Education at the Department of Sociology, University of Utah. LIFE was and continues to be such a unique and effective model of interdisciplinary training that I try to emulate it in my own work with students. Learning about different methodologies and theories from multiple disciplines has helped me have a deeper appreciation and understanding for the complexities of human development.

Andreas Wilke, MPIB alumnus. I am Professor and Chair at the Department of Psychology, Clarkson University, Potsdam, NY. I am very grateful for the training that LIFE provided and the many meaningful contacts I was able to foster from it over the years. It was a pleasure to meet the current fellows during our 20th LIFE anniversary meeting. I was very impressed with the continued excellence coming out of this graduate cluster. Make use of those available cross-site research visits!! Stay well, we are proud of you.

The first Fall Academy in October 2002 also took place in the Harnackhaus, Berlin.

LIFE Fall Academy Berlin 2022: Report by Two Fellows

Urmimala Ghose, HU fellow, & Isabelle Moore, UVA fellow

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Urmimala Ghose

After four virtual and one hybrid LIFE academies in the last three years, the LIFE Fall Academy 2022 in Berlin was the first fully in-person one. The 20th anniversary of LIFE made the event even more special this year. Moreover, this being the first in-person academy for most of the current fellows since joining the doctoral program, we had been eagerly looking forward to meeting faculty and fellows across all the LIFE sites. Although some of the fellows from Berlin and Zurich had the opportunity to meet each other in the hybrid academy at Zurich last year, it was the first time for most of us that we could share the academy in person with fellows from Michigan and Virginia.

On the first day of the academy, the Berlin fellows arrived at Harnack Haus, our conference venue, about an hour before the actual program started. The fellows from the other sites were already there since the night before. After a brief informal introduction amongst ourselves over coffee, the welcome address by Ulman Lindenberger marked the beginning of the much awaited program.

Over all four days, the enriching lectures familiarized us with the current works of various faculties, all of whom are experts in their own fields. The fellows also presented their ongoing research through posters or presentations. Each of the lectures and presentations was followed by an interactive discussion session in which both faculty and fellows participated enthusiastically. These discussions facilitated interdisciplinary outlooks from different aspects of lifespan research, which is extremely inspiring for every motivated researcher.

Moreover, we also had the opportunity for a more detailed discussion of our research ideas with individual faculty members in one-to-one sessions. Receiving insightful feedback from the maestros in these individual meetings immensely helped in developing our current research as well as in our personal growth as early career researchers.

In addition to the scheduled lectures and presentations, there were also some special sessions on each day of the academy. The first evening witnessed the celebration of the 20th anniversary of LIFE. It was an enthralling experience to revisit the journey of LIFE since its formative years through the lenses of the first cohort fellows who shared their experiences of their predoctoral days as well as of being part of the LIFE community beyond PhD life. This was followed by the commencement session of the fellows successfully defending their doctoral dissertation in 2022. Going along with a general mood for celebration, the first day ended with an informal reception accompanied by live music. This was a great opportunity to get introduced to faculty and fellows in an informal way.

Evening event on the first day of the academy.

On the second day, we had a short session for fellows' collaborative project planning. For this session, we were randomly assigned to one of five working groups with other fellows. It was fun to come up with a hypothetical collaborative research project that encompasses a common area of interest of all the team members such that each one had something to contribute to the research. We hope to build on this teamwork that may initiate new interdisciplinary collaboration within and beyond the LIFE network in future.

The academy further offered a career development session for the fellows with the LIFE alumni, where we had the opportunity to learn from the alumni about their personal journeys in academia and to interact with them regarding specific issues. They also shared their perspectives on how to take baby steps in the academic world following completion of our PhD.

In the afternoon of the third day, we had a short walk through the beautiful neighborhood of Dahlem, followed by a guided tour of the Max Planck Dahlem Campus of Cognition (MPDCC). It was a great experience to see the newly built research laboratories equipped with the most recent infrastructure that would be great for any modern neuroscientist to conduct their research. This tour set a more relaxed mood for the rest of the evening when we had the fellows' dinner in a restaurant at the heart of Berlin.

The roundtables, which are an integral part of the LIFE academies, were scheduled on the final day. These parallel sessions on different methodological issues of concern in current developmental research enabled us to engage in intriguing conversations with the faculty members leading the respective groups of fellows. Given the multidisciplinary outlook of LIFE as well as that of lifespan research in general, these exchanges of knowledge and ideas are necessary for the field to develop further.

Personally, this was my second LIFE academy and the first in-person one. The four-day-long experience of the academy not only broadened the horizon of lifespan research for me, but it also left me with memories of friendship beyond work that I will cherish forever. Do I even need to mention that I have already started counting down days to the next spring academy to be held in Michigan?

Isabelle Moore

As a Virginia fellow, my first time attending a LIFE academy represented not only an incredible professional opportunity, but a chance to travel to a new country. Therefore, I was especially grateful to the Berlin fellows for their willingness to graciously host us and show us around their beautiful city. Upon arrival at the Harnack Haus on the morning of October 12th, myself and several other Virginia fellows dropped off our bags and hopped on the U-Bahn to explore the city. Through a combination of public and foot transportation, we were able to see incredible Berlin landmarks, including the Reichstag, Brandenburg Gate, Berlin cathedral and the Memorial to the Murdered Jews of Europe. The sunshine and fall leaves provided a magical backdrop for our exploration.

After a restful night's sleep, we met other fellows over breakfast in the Harnack Haus garden, which was my first introduction to German cuisine. The meals shared between fellows, alumni, and faculty provided unique opportunities for informal exchanges about scientific research and further discussion of the academy talks and presentations. That night, the Berlin fellows further immersed us in German culture at a local beer garden, where we got to know one another. The Berlin fellows continued to be gracious hosts the following evening, when they took us to a fun local bar and we shared drinks and laughs.

On the afternoon of the 15th, we walked through Domäne Dahlem, an open-air agricultural museum, on our way to the MPIB. Once we arrived on the MPI campus, we were given guided tours of not only the verdant and modern grounds, but also of the state-of-the-art scientific equipment, including fMRI, EEG, and VR devices. LIFE program manager and MPIB research coordina-

The MPIB entrance area.

tor Imke Kruse also showed us the building and plans for the MPDCC, an incredible research facility that is underway.

After the campus tours, the fellows packed onto the U-Bahn to travel to the fellows' dinner. Along the way, we stopped at the East Side Gallery, an open-air gallery of spray-painted artworks along a surviving section of the Berlin Wall. The pictures I had seen prior to the trip did not do the gallery justice; seeing the imaginative artworks in person was truly a singular experience. At the fellows' dinner, we talked about the Berlin academy and plans for future academies over delicious Mediterranean food and rhubarb sodas. On the last day of the academy, we shared a last dinner at Harnack Haus before embarking on another U-Bahn journey to catch the Festival of Lights. The Festival transforms already-striking landmarks into ethereal works of art through the use of animated projections, illuminated sculptures, and music. The spectacular display, along with the local donuts we devoured on the way back, was the perfect way to end our Berlin experience.

Commencement During the Fall Academy: Congratulations!

Commencees (from l. to r.): Mario Lawes, Sarah Polk, Anna Karlsson, Stefan Heß, Dominic Kelly, Poortata (Pia) Lalwani, & Kristi Chin. Unfortunately, Esra Ascigil, Hyesue Jang, and Sophie Potter could not attend.
Faculty: Steve Boker, Moritz Daum, Patti Reuter-Lorenz, Adriene Beltz, Kai Cortina, Jacqui Smith, Toni Antonucci, Ulman Lindenberger, Thad Polk, & Clemens Tesch-Römer

Some of the commencees with their proud advisors (or father)!

Fall Academy 2022: Fellows' Abstracts

Talks and posters in alphabetical order by author respectively

Contact information available at https://www.imprs-life.mpg.de/people

Talks

The role of learning in the development of individuality

Warsha Barde, DZNE
Advisor: Gerd Kempermann

We used the IntelliCage (IC) apparatus which is a computer-based, fully-automated home cage system to analyze the exploratory, learning and social behavior of mice. Genetically identical mice, when subjected to a series of learning tasks, showed individualized behavioral trajectories that become divergent over time. IC mice also showed a significant increase in adult hippocampal neurogenesis (AHN) which correlated positively with different aspects of learning. In the absence of genetic and environmental variance, this emergence of individuality is attributed to environmental enrichment (ENR) that facilitates a differential experience of the 'non-shared' environment, augmenting small initial differences and setting animals on individual life paths. We hypothesize that the feedback loop between behavior and experience-dependent plasticity is a driving mechanism for the individualization of the brain and consequently behavioral patterns. Using IntelliCage as a reductionist version of ENR, we aim to study the role and relative contribution of learning and educational experiences in inducing the ENR-effects. We will first study the process of individualization of behavioral patterns by analyzing exploratory and learning curves. We will then examine the relationship between behavioral features and brain plasticity measures like AHN and hippocampal functional connectome by using immunohistochemistry and ex-vivo electrophysiology.

Growing into parenting together: Similarities and differences in parenting practices among first-time parents

Sabrina Beck, UZH
Advisor: Moritz Daum

Coparenting is important for promoting healthy child development. A high degree of agreement on parental attitudes, behaviors and goals is conducive to successful coparenting. Here, we investigate the factors which contribute to similarities and differences in parenting behavior between mothers and fathers within the same family. Furthermore, we are examining how accurately parents perceive and assess their partner in terms of their parenting practices. Since June 2022, we have been recruiting Swiss-German first-time parents that live together and have an only child at 12, 24 or 36 months (+/- 3 months). Parents are completing an online survey on parenting practices both as a self-assessment and an assessment of their partner's parenting practices. In addition, demographic variables such as education levels, age, etc., as well as relationship satisfaction are assessed. Data collection will be continued until the targeted sample size of 180 parent couples has been reached. We expect data collection to be completed in September 2022. The study is preregistered; accordingly, data will not be viewed until data collection is complete. We will run an APIM model for all four scales on parenting practices (positive parenting, responsible parenting, authoritarian parenting, inconsistent discipline) and conduct Multigroup APIM analyses. We expect higher levels of parenting agreement among couples who share similar demographic backgrounds, have longer-lasting and more satisfying relationships, and among parents with younger children compared to older children.

Charting the ontogeny of memory processes in childhood

Elisa S. Buchberger, MPIB
Advisor: Markus Werkle-Bergner

An adaptive memory system is caught in a fundamental tension: extracting commonalities from similar experiences to generate novel inferences (i.e., generalization), while at the same time forming separate representations of similar events (i.e., episodic specificity). These mnemonic functions show tremendous age-related improvements over the course of early to middle childhood. However, their inter-dependence and relative development from early to middle child-

hood are still poorly understood. One reason for this lies in the challenge of designing and adapting age-appropriate behavioral paradigms that provide valid behavioral readouts of the underlying processes that support generalization and memory specificity.
In this talk, I will discuss a large task battery of behavioural paradigms which we adapted for the use in the age range of 4 to 8 years to assess different component processes of memory in childhood. To this end, I will present findings from a study in which we implemented one of these behavioral tasks. Here, we found age-related differences in our measures for generalization and memory specificity from age 4 to 8, as well as their overnight fate. Lastly, I will address the question of the underlying architecture of memory in childhood by presenting two study designs—one for a large-scale cross-sectional study and one for a longitudinal project—which will allow us to investigate the constituent processes of memory in childhood and changes therein over time.

A longitudinal study on the association between life goals and the Big Five traits
Laura Buchinger, DIW Berlin
Advisor: Gert G. Wagner

Basic traits and motivational constructs like life goals are both critically relevant to fully capture an individual's personality. Yet, lifespan development of the two constructs has largely been examined in separate lines of research. In our preregistered study, we investigated the co-development of nine life goals and the Big Five traits in a large, heterogeneous sample (N = 55,040, age range: 18–103 years) over a study period of 13 years, using data from the German Socio-Economic Panel (SOEP). Applying bivariate latent growth curve modeling, we identified moderate to weak co-development in eight out of 45 goal-trait combinations. Co-development was strongest for openness and agentic goals with a focus on personal growth (i.e., self-fulfillment) followed by agreeableness and communal goals (i.e., being there for others). Conscientiousness co-developed with agentic and communal goals. Contrary to previous research, our results suggest longitudinal associations between neuroticism and communal life goals (i.e. having a happy relationship/marriage). Some co-developmental patterns were moderated by age, perceived control, gender and educational background. Age appeared to have a complex effect on co-development. Results are discussed with regard to recent theoretical models of personality development, such as the self-regulation perspective and the corresponsive principle.

Loneliness as a relevant clinical phenomenon: Development and evaluation of an internet-based CBT intervention for the treatment of loneliness in older individuals
Christine Dworschak, UZH
Advisor: Andreas Maercker

Loneliness has been described as one of the main risk factors for both physical and mental illness. Although loneliness is evident across the lifespan, it is more likely in populations who are at risk for social isolation, such as older individuals. Interestingly, a meta-analysis revealed that the most effective intervention strategy to reduce loneliness is cognitive restructuring (which is a core element of cognitive behavioral therapy [CBT]). However, most existing loneliness interventions do not focus on cognitive restructuring. In addition, it has been shown that although effective interventions exist, only a small number of older individuals seek face-to-face psychological treatment. Internet-based interventions have the potential to bridge this treatment gap. Therefore, the aim of my PhD project is to develop and evaluate the first internet-based CBT intervention for the treatment of loneliness in older individuals. In this presentation, I would like to elaborate on the development process of our intervention, discuss content as well as features of the internet-based program and provide an outlook on the planned study design to evaluate the efficacy of the intervention.

Development of critical thinking: Does college really matter?
Blake Ebright, University of Michigan
Advisor: Kai Cortina

Most professors believe that a college education strongly enhances critical thinking. While this is corroborated by pertinent empirical research, the validity of the underlying measures of critical thinking is weak. We constructed two performance assessment tasks based on real-life decision-making dilemmas with stronger ecological validity. In our operationalization, critical thinking skills are evidenced by (1) prolific and balanced argumentation regarding pros and cons, (2) source analysis regarding trustworthiness and

relevance, and (3) quality of written communication regarding spelling, grammar, and text structure. Our multidimensional analysis of a one-semester longitudinal study demonstrated that one-third of students relied on arguments that were strong moral imperatives, a trend that increased to over half of students by the end of the semester. In line with this finding, critical thinking only developed along one axis of our operationalization: identifying more arguments. Interestingly, this did not necessarily result in a more balanced or unbiased paper. Students also showed a downward trend in their ability to analyze sources as relevant and trustworthy. Apart from having balanced arguments—which seniors were better able to improve upon—these findings are consistent across classes and thus raise doubts about effect sizes reported in prior research.

Does social sampling differ between online and offline contacts?

Marlene Hecht, MPIB
Advisor: Christin Schulze

Decision makers can infer population level-statistics (e.g., consumer preferences) by drawing on samples from their personal social networks. In light of the growing use of the Internet, much of people's social interactions occur online rather than offline. Here, we examine to what extent sampling of social network members from memory (social sampling) is affected by whether one usually has online vs. offline contact to a person. In two studies, participants judged the popularity of holiday destinations and the prevalence of health issues, and recalled people in their social networks who had vacationed at each destination or had experienced each health issue. Additionally, participants indicated the contact mode (offline, online, or mixed) and social category (self, family, friend, or acquaintance) of each recalled person. We used a hierarchical Bayesian modeling approach to compare sequential and limited search strategies guided by contact mode or social category to exhaustive search and guessing. The majority of participants was best described by a limited rather than an exhaustive search strategy or guessing. In both domains, participants relied less strongly on information from online contacts, and more on other social subgroups. Overall, these results provide the first evidence that contact mode affects social sampling from memory.

Social dynamics and momentary affect: Combining experience sampling and mobile sensing data

Michael Krämer, DIW Berlin
Advisor: David Richter

Social interactions are crucial to happiness. Still, people vary interindividually and intraindividually in their social desire. We investigate how momentary affect relates to temporal dynamics in social interactions focusing on social deprivation, i.e., being alone but desiring to be in contact with others, and social oversatiation, i.e., being in contact with others but desiring to be alone. We preregistered hypotheses that mismatches between desire and experienced interactions are associated with decreased momentary affect. 306 participants (51% women, age M = 39.8, 18–80 years) answered up to 20 questionnaires about their social interactions and affect over two days while also providing mobile sensing data. Using both experience sampling and mobile sensing data to form indices of social interactions, we analyze how momentary affect changes during the experience of social deprivation or oversatiation, and how personality moderates the effects. First results indicate no significant effects for social deprivation, but decreases to positive affect and increases to negative affect during social oversatiation which are not moderated by personality traits.

Partners now parents: Exploring the psychosocial and epigenetic changes over the course of the transition to parenthood for first-time parents

Shannon M. Savell, UVA
Advisors: Mel Wilson, Jessica Connelly

Becoming a parent is a highly anticipated milestone for many couples, yet previous research suggests that nearly 70% of couples experience a sharp decline in romantic satisfaction after the birth of the couple's first child (Shapiro et al., 2000), potentially as a result of the stress and strain on the couple's relationship. Sustained dissatisfaction and unresolved conflict are known predictors of relationship dissolution (i.e., divorce) and sustained stress without perceived support is a known precursor of post-partum depression (Schulz et al., 2006), both of which negatively impact infant and early childhood psychosocial and physical development. In the current study, we evaluate the efficacy of an evidence-based

couples teletherapy preventive intervention tailored for the stressors associated with the sensitive period of the transition to parenthood for 66 first-time parents (33 couples) using a variety of psychosocial, behavioral, and biological outcome indicators. Importantly, this will be one of the first studies of its kind to track oxytocin levels, an essential biological component in familial bonding, over the course of the transition to parenthood for both male and female partners in the context of a preventive intervention, giving us an integral view into the changes associated with this critical period. Preliminary results and implications will be discussed.

Risk preference development in childhood and its determinants in two Western societies
Sarah Swanke, MPIB
Advisors: Gert G. Wagner, Ralph Hertwig

Risk is an inherent part of life, and thus, an individual's unique risk preference guides their decisions over the life course. Most developmental theories and empirical literature focus on the transition from late childhood to adolescence, despite early childhood being critical for the development of personality and other cognitive skills. To explore the significance of childhood on the foundation of risk preference, our study examines two nationally representative samples of children aged 2–10 in the UK and Germany (n = 10,624). The UK sample also includes a longitudinal subset (n = 1,383). Our findings, based on linear and multi-level models, show that risk preference forms — and willingness to take risks — systematically decreases. This occurs substantially earlier than current theories account for. As children show meaningful differences in their development patterns, the emerging risk preference is not exclusively the result of some uniform biological maturation mechanism. Gender, while important in adolescence and adulthood, does not appear to play as critical a role for risk preference in childhood. These findings recenter early childhood as a meaningful origin of risk preference formation. Further, they encourage research into how early childhood experiences and innate childhood traits contribute to an individual's lifelong willingness to take risks.

Posters

Cortical and subcortical processing of speech in the brain at risk for dementia
Elena Bolt, UZH
Advisor: Nathalie Giroud

Mild cognitive impairment (MCI) is an intermediate stage between the cognitive decline associated with normal aging and the more severe decline associated with dementia. Given the strong link between hearing and cognition, neurophysiological data from participants diagnosed with MCI can shed light on how speech processing deficits along the auditory pathway characterize the brain at risk for dementia. Furthermore, such data could disentangle interactions between cognitive impairment and age-related hearing loss. In the auditory pathway, signals pass through subcortical relay stations before being integrated in cortical areas. A recent study suggests that the pathophysiology of MCI extends to speech encoding in the brainstem and that both cortical and subcortical markers of speech processing have predictive potential for MCI. In our study, we investigate cortical and subcortical processing of natural speech in MCI and control participants (≥60 years of age) with novel electroencephalography methods. We expect altered processing in the MCI group, driven by slowed and weaker encoding at the subcortical level. In the next step, we aim to use the neural markers of speech processing that emerge from this framework as features for a diagnostic model that predicts MCI using a classifier while accounting for participants' hearing status.

Select and succeed: Adult age differences in value-based remembering of gain- and loss-related information
Jasmin Brummer, UZH
Advisors: Sebastian S. Horn, Alexandra M. Freund

Declarative-memory performance declines across adulthood. However, the ability to remember selectively, based on the importance of information, tends to remain stable. Importance is related to personal goals, and information related to personal goals is processed preferentially. This has also been shown for information matching the motivational orientation that is more relevant to one's age group (e.g., Depping & Freund, 2013). In the current research, we investigate the motivation-cognition interaction with a value-based remembering (VDR) paradigm, in which success-

ful remembering leads to either gaining points or preventing the loss of points. In contrast to previous VDR tasks, multiple gain- and loss-associated items are presented simultaneously in a spatial matrix. Remembering can therefore be investigated for item and context memory (compound item-location associations). Strategic selectivity and memory for gain- and loss-related items is measured with a selectivity index.
We expected higher declarative memory performance for younger than older adults and investigate whether older adults remember loss items more selectively than younger adults (and vice versa for younger adults). This study aims at providing new insights into how aging affects the prioritization of information in memory. This has applied implications for how information should be framed to ensure successful recall in older adults.

Characterizing affect dynamics in high versus low trait anxiety sensitivity individuals: Discussing modeling ideas and challenges

Katharine E. Daniel, UVA
Advisor: Bethany Teachman

Affect is inherently unstable, pushed up and down by an ever-changing combination of internal and external events. How affect changes over time is associated with psychological health; describing affect's trajectories using dynamical systems analysis (DSA) can reveal how affect is self-regulated and point to potential opportunities for clinical intervention. Two separate studies experimentally manipulated the external input introduced into adult participants' ($N = 140$ and $N = 119$) affective systems by interjecting positively and negatively valenced sentences throughout a series of stories that participants were asked to listen to while continuously rating their state affect. By presenting the same affective stimuli to all participants, this work offers the opportunity to more cleanly identify individual differences in affect regulation (e.g., equilibrium, reactivity, attractor strength) that may otherwise be obscured by potential differences in the contexts that individuals self-select into during naturalistic observations. However, aspects of the experimental design also complicate the analytic approach. This talk will therefore present modeling ideas and challenges, along with conceptual considerations, when attempting to apply DSA to these data to better understand individual differences in affect regulation.

Intergenerational transfer effects on corticolimbic gray matter volume of mother–child dyads

Plamina Dimanova, UZH
Advisor: Nora Raschle

Intergenerational transfer effects are reflected in traits' transmission from parents to their children. While behaviorally well documented, intergenerational transfer effects on neurobiological level are rarely investigated and studies examining the combination of behavioral and neurobiological endophenotypes in familial context are missing. Structural brain data were acquired in 39 dyads (33 mothers/39 children, 7–14 years, 16 girls). T1-weighted images were pre-processed in FreeSurfer and gray matter volume (GMV) of the corticolimbic circuitry was extracted (bilateral amygdala, hippocampus, nucleus accumbens, anterior cingulate, and medial orbitofrontal area). Dyadic similarity was calculated by Pearson's correlation coefficients and familial specificity was assessed by comparison of mother-child dyads to unrelated mother-child pairings using a permutation approach. Similarity was higher in mother-child dyads compared to unrelated mother-child pairings ($p = .001$). The similarity index for male and female children did not differ. Structural similarity in the subcortical regions was higher compared to the neocortical regions ($p = .05$). Dyadic difference in GMV predicts 16.4% of the variance in dyadic difference in well-being. An increase in knowledge on the mechanisms underlying intergenerational transfer effects reflected in biology and behavior of parent-child dyads may impact our understanding of complex skill transmission and developmental trajectories leading to health and disease.

The facilitative role of visual speech cues for speech in noise perception: How is audiovisual speech processed in older hearing-impaired individuals?

Vanessa Frei, UZH
Advisor: Nathalie Giroud

Age-related hearing loss (ARHL) is associated with difficulty understanding speech, particularly in the presence of background noise (SiN). Furthermore, ARHL is assumed to demand cognitive capacity in SiN processing, resulting in inadequate cognitive resources for other tasks, eventually facilitating cognitive decline. Audiovisual enhancement of speech processing (AV

speech), however, contributes significantly to SiN performance and can reduce cognitive demands. We investigated the effects of AV vs. audio only (A) listening conditions on (1) intelligibility and comprehension tasks and (2) neural continuous speech processing (i.e., neural speech tracking, a measure reflecting the synchronization of low-frequency auditory cortex activity with temporal regularity of speech) in 68 older hearing-impaired participants. We presented natural, noise-masked sentences (8 overlapping sentences, SNR = 0) in A and AV (showing speaker's mouth and chin) while EEG was recorded. The data shows that, despite matched audiometry, there is a dichotomous distribution in SiN perception, which can at least partly be explained by differences in the central processing of speech. Additionally, the low-performer group shows significant benefit from audiovisual speech presentation, which is accompanied by significant increases in neural tracking. These findings at least partially explain individual differences in the benefit of audio-visual speech cues.

How spousal bereavement shapes life satisfaction: Stability and change across historical time

Urmimala Ghose, HU/DIW Berlin
Advisor: Denis Gerstorf, David Richter

Lifespan psychological and life course sociological research have shown that spousal bereavement constitutes one of the most stressful life events that is often predictive of declines in well-being and physical health as well as elevated mortality hazards. It is an open question though whether and how well-being implications of spousal bereavement have changed over the past decades. On the one hand, it stands to reason that diffusing gender roles in romantic partnerships, together with diversifying and expanding social networks might buffer well-being decrements. Conversely, historically increased caregiver responsibilities prior to spousal loss might make bereaved spouses even more vulnerable to the associated distress. We plan to use data from 2,345 participants in the German Socioeconomic Panel obtained since 1985 and track the changes in their life satisfaction as a key indicator of well-being during the experience of spousal loss. We will build on and extend earlier approaches distinguishing anticipation, reaction, and adaptation phases and examine historical shifts therein. We expect that current cohorts of bereaved spouses exhibit steeper declines in the anticipation phase, but less steep declines during the immediate reaction phase and faster recovery during the adaptation phase than matched respondents from earlier cohorts. We will also probe the role of physical health and lifestyle factors, including disabilities and activities, as moderators of change.

Should Hanpei refuse the gift? Intercultural children's reactions to norm decisions and violations

Natascha Helbling, UZH
Advisor: Moritz Daum

In recent years, more and more people with different cultural backgrounds are living closely together and knowledge about cultural differences in everyday interactions is becoming increasingly relevant. In this context, social norms play an essential role because groups with shared values and beliefs create them to provide guidelines for appropriate behaviour in different social contexts. While social norms have frequently been studied with monocultural children, not much is known about how intercultural children differ in their understanding and reasoning about social norms of their own and other cultures.
In this study, we are currently investigating the reactions of 4- to 12-year-old mono- and bicultural children living in Switzerland, Hong Kong, or England to a selection of pre-surveyed social norms. In the first task, we ask participants to decide how protagonists with different cultural backgrounds would act in social norm-scenarios by showing them a picture book story with norm-compliant and norm-violating behaviour options. In the second task, participants are confronted with the protagonist's actual behaviour. We then ask them to rate the protagonist's behaviour as "okay" or "not okay." I will present the findings from a subsample of Swiss mono- and bicultural children.

Increased stress reactivity threshold in victims of bullying

Jens Heumann, UZH
Advisor: Michael J. Shanahan

Exposures to acute and chronic stressors are associated with manifold forms of physical and mental distress. Some scientists, using human subjects and animal models, have focused on biopsychological mechanisms that account for these associations, while others have documented the

social origins of distress, most prominently socioeconomic status. In this paper, we join insights from these two strands of research, examining how a potent social stressor, victimization by bullies, alters people's threshold for judging whether other people are angry (which, in turn, can lead to increased chronic stressors in everyday life).
We draw on data from the "Zürcher Untersuchung zu Gehirn und Immungenen" (ZGIG), a subset of about 200 subjects from the Zurich Project on Social Development from Childhood to Adulthood (z-proso) longitudinal study of children and youth ($n \approx 1400$). The small sample size of ZGIG allowed for extensive measurement of the stress process, and data from z-proso provided bullying data across five waves from ages 10 to 21. Facial emotion discrimination (FED) was measured at about age 22 using a morphing task in which subjects identified the mid-point in a superimposed spectrum of expressions between joy and aggression in 42 faces from the Chicago Face Database (CFD).
We examine victim, perpetrator, and victim-perpetrator clusters of bullying, with unaffected individuals serving as controls. To draw causal inferences, we consider bullying quasi-experimentally as a non-randomly assigned treatment and balance observations based on the probability of receiving its treatment in a joint model.
Results of a propensity-score-weighted mixed model show that subjects in the victim cluster rated higher levels of aggression in faces as neutral when compared with the unaffected group. The results support theories of blunted response due to overstimulation. Multinomial logistic regression results show that subjects from low socio-economic status (SES) households were more likely to fall into the victim cluster. The decomposition of the SES association shows that the effects are mainly due to low educational attainment of the parents.

Conspicuous experiences as unique social signals of both status and warmth
Wilson Merrell, UM
Advisor: Josh Ackermann

Buying and displaying expensive purchases socially signals that one possesses wealth and status. To date, the literature exploring this conspicuous consumption process has largely focused on material goods (e.g., cars) but explicitly neglected targets of consumption such as experiences (e.g., vacations) whose transitory nature presumably makes them relatively poor social signals. In contrast, we contend that people can flaunt expensive experiential purchases through direct communication and more permanent channels such as social media, making experiences potentially strong indicators of wealth and status. Three studies and an internal meta-analysis show that experiential conspicuous consumption conveys status equivalently to material conspicuous consumption, and further, these experiences uniquely boost communal perceptions. Three additional studies testing mechanisms for this communal benefit demonstrate that inferences of intrinsic motivation play a key role. These findings broaden our understanding of status perception, and they position conspicuous experiences as signaling tools with their own set of interpersonal benefits.

The impact of age-related hearing loss on cortical lip-contour tracking
Raffael Schmitt, UZH
Advisor: Nathalie Giroud

The alignment between low-frequency activity in the brain and slow acoustic modulations in the speech signal depicts a core principle in present theories of speech perception—a process referred to as "neural speech tracking". Unlike the auditory domain, little is known about how the brain processes visual cues of continuous speech and how these processes change as a function of age-related hearing loss.
In this planned study, a sample of elderly subjects with varying degrees of hearing loss completes speech perception tasks while their brain activity is measured using EEG. Participants are presented with sentences where the speaker is either visible or not and where there's either noise present or not. Neural speech tracking will be measured by computing the synchronization between brain activity and the lip-contour of the speaker using weighted pairwise phase consistency. Statistical analysis will be conducted on trial level data using generalized linear mixed effects models.
We hypothesize that hearing loss and external noise is associated with enhanced lip-contour tracking. Furthermore, we hypothesize that the association between noise and lip-contour tracking is modulated by the degree of hearing loss (i.e., a significant interaction between hearing loss and noise).

Training-induced plasticity of frontoparietal activation and connectivity during task switching in children

Sina A. Schwarze, MPIB
Advisor: Ulman Lindenberger

With age, children become better at flexibly switching between tasks and adapting to changing environments. Children's difficulties with task switching diminish with training, but the neural correlates of these improvements are largely unknown. I examined whether task-switching training in children led to more efficient rule processing in frontoparietal regions, as previously shown in adults, or if children adapted during training via different neural mechanisms. Children aged 8 to 11 years underwent nine weeks of single-task (SI) or task-switching (SW) practice on tablets at home, or were part of a passive control group (MC). They performed task switching in the MRI scanner on four timepoints. Children in the SW group showed greater increases in drift rates during task switching compared to the SI and MC groups, suggesting faster evidence accumulation for the correct response with task-switching practice. Frontoparietal brain regions associated with maintenance and management of multiple task sets (i.e., dorsolateral prefrontal cortex and superior parietal lobe) showed training-related reductions in activation in the SW group, potentially implicating these mechanisms in improved task-switching performance. Reduced activation of the anterior insula on switch trials in the SW group after training might suggest less reliance of a salience drive response mode on switch trials.

Working memory re-exposure improves episodic memory in older and younger adults

Kathy Xie, UM
Advisor: Patricia A. Reuter-Lorenz

According to the associative deficit hypothesis, age-related declines in episodic memory (EM) are due to difficulty forming and retrieving associations. Deficits in associative binding during working memory (WM) may also contribute to EM decline. We investigated whether re-exposure to word-pairs (associations) or single words (items) during a three-alternative forced choice WM recognition test helps or harms EM in 115 older (OA) and 120 younger adults (YA) recruited from Prolific. OA received longer study times per pair to compensate for age-related reductions in processing speed. We used a multinomial process tree model to derive separate estimates of EM for word-pairs and individual words. The results suggest that pair re-exposure during a WM test benefits associative and item EM for both age groups. Contrasting with the well-known age-related associative deficit, OA showed superior associative EM compared to YA, even for YA and OA subsets selected for equivalent WM performance. However, the representativeness of our online samples, and differing study times may limit the generality of these group differences. Nevertheless, WM re-exposure improved EM for both groups, suggesting a WM testing benefit regardless of age.

10 Questions

Hudson Golino, Associate Professor of Psychology
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How did you get involved in quantitative methods in psychology?

As a first-year undergraduate student, I received a scholarship to work on a project investigating the predictive validity of intelligence measures on school performance. I was excited because it was my first opportunity to have an experience with research while receiving a small stipend. The problem was: I was not too fond of school psychology. I had not-so-positive experiences with school psychologists in my middle/high-school years and had a very negative view of the field. Little I knew that the project's principal investigator was an applied psychometrician who had a theoretical physicist interested in education as his PhD advisor. Their research group highly regarded measurement theory, structural equation modeling, and state-of-the-art quantitative methods. Quickly I developed a profound interest in quantitative methods, especially in item response theory and the Rasch models. Soon I was learning how to create new assessment instruments and conduct validity studies. At the same time, I became very interested in studying the developmental stages of reasoning, blending mathematical models of information organization with developmental psychology, an area pioneered by Michael Commons (Harvard Medical School) and Kurt Fischer (Harvard's School of Education). No matter what my applied interests were, quantitative methods were central.

With my interest in quantitative methods came a deep interest in the philosophy of science. Also influenced by my supervisor (Cristiano Gomes) at the Universidade Federal de Minas Gerais (Brazil), I started reading Popper, Kuhn, Lakatos, and several other philosophers. In my mind, there was a strong connection between the philosophy of science and quantitative methods. The big debates in psychometrics were all about the philosophy of science in psychology. That's how I got interested in Denny Borsboom's work on validity.

In 2012 I received an award from the International Test Commission and went to The Netherlands to attend their conference. At that time, I was planning to apply to the University of Amsterdam's PhD program in quantitative methods, having Denny as my supervisor. When I met him in his office, he told me he was not interested in measurement theory anymore, and all his efforts were now in a new area they were exploring, connecting graph models with psychology. I ended up not applying to their graduate program, and decided to do my PhD with my Brazilian supervisor, because I could finish everything in less than 3 years given how far I was in my own research. At the end of the day it was a good decision: I finished my Master's degree in 8 months and my PhD in 3 years, and in the meantime married my then-girlfriend (Dr. Mariana Teles). Denny invited me to the symposium his students were presenting the next day about network science. That symposium changed my life. Two PhD students at the time (Sacha Epskamp and Laura Bringmann) gave brilliant talks. My mind was whirling with the potential applications of network methods in psychology.

Right after the symposium, I invited Sacha to spend two weeks in Brazil and teach a workshop about network models. That's how I started thinking about the connections between network methods and factor analysis, which later led to the development of a new subfield of network psychometrics that I termed "exploratory graph analysis." The next ten years of my life were devoted to the development of exploratory graph analysis and related techniques, blending psychometrics with network science, information, and quantum information theory.

Could you name books or articles that have profoundly influenced your own thinking about the field?

That's a challenging task. Several books influenced my work over the years, and selecting a few is pretty difficult.

However, maybe the following books (presented in chronological order according to my contact with them) were the most central ones:

1. Bond, T. G., & Fox, C. M. (2013). *Applying the Rasch model: Fundamental measurement in the human sciences*. Psychology Press.
2. Rasch, G. (1960). *Probabilistic models for some intelligence and attainment tests*. University of Chicago Press.
3. Andrich, D. (1988). *Rasch models for measurement*. Sage. https://doi.org/10.4135/9781412985598
4. Krantz, D., Luce, D., Suppes, P., & Tversky, A. (1971). *Foundations of measurement, Vol. I: Additive and polynomial representations*. Academic Press.
5. Luce, R. D., Suppes, P., & Krantz, D. H. (2007). *Foundations of measurement: Vol. III. Representation, axiomatization, and invariance*. Academic Press.
6. Borsboom, D. (2005). *Measuring the mind: Conceptual issues in contemporary psychometrics*. Cambridge University Press.
7. Kuhn, T. S. (1970). *The structure of scientific revolutions*. University of Chicago Press: Chicago.
8. Popper, K. (2005). *The logic of scientific discovery*. Routledge.
9. Lakatos, I. (1980). *Mathematics, science and epistemology: Philosophical papers. Vol. 2*. Cambridge University Press.
10. Harman, H. H. (1976). *Modern factor analysis*. University of Chicago Press.
11. Gazzinelli, R. (2013). *Who's afraid of quantum physics?* [Quem tem medo de fisica quantica?]. UFMG Press.
12. Newman, M., Barabási, A.-L., & Watts, D. J. (Eds.). (2006). *The structure and dynamics of networks*. Princeton University Press.
13. Watanabe, S. (1969). *Knowing and guessing: A formal and quantitative study*. Wiley.
14. Wilde, M. M. (2013). *Quantum information theory*. Cambridge University Press.
15. Preskill, J. (2018). *Quantum information*. Cambridge University Press.
16. McArdle, J. J., & Nesselroade, J. R. (2014). *Longitudinal data analysis using structural equation models*. American Psychological Association.
17. Nesselroade, J. R., & Cattell, R. B. (Eds.). (2013). *Handbook of multivariate experimental psychology*. Springer.
18. Collins, L. M., & Horn, J. L. (1991). *Best methods for the analysis of change: Recent advances, unanswered questions, future directions*. American Psychological Association.

In terms of articles, there are so many influential ones to my research and career that it is basically impossible for me to select a few. However, I can easily point to two of the most influential papers I read in the past couple of years that led me to develop new methods/metrics:

1. Santoro, A., & Nicosia, V. (2020). Algorithmic complexity of multiplex networks. *Physical Review X, 10*(2), Article 021069. https://doi.org/10.1103/PhysRevX.10.021069
2. Watanabe, H. (2001). Clustering as average entropy minimization and its application to structure analysis of complex systems. *2001 IEEE International Conference on Systems, Man and Cybernetics. e-Systems and e-Man for Cybernetics in Cyberspace, 4,* 2408–2414. https://doi.org/10.1109/ICSMC.2001.972918

Which do you consider the main current debate within the field?

There are so many debates in my field that it is difficult to think of two central ones. Maybe, the debate about the difference between latent variable models and network models is one. In my mind, however, there's no debate. They are two sides of the same coin and are mathematically equivalent under certain conditions.

The second one, which is not a debate per se, is why so many people are against network psychometrics and why most also work with network models. It's beyond my comprehension. I have several hypotheses about this phenomenon, but they are nearly impossible to test, so I won't share them here (ask me privately, and I might share one hypothesis with you).

What research topics have been neglected or have not received enough attention so far?

Another difficult question. I think that intra-individual modeling is still relatively underappreciated in Psychology. The cross-sectional investigation of individual differences is still the most common type of research, and I think that's a shame. To understand how individuals work (and also groups of individuals), we must use intensive longitudinal measurement designs and intra-individual modeling (that can also lead to the analysis of groups of individuals).

One of your foci is on exploratory graph analysis. Can you tell us more about this?

Exploratory graph analysis (EGA) is a general network psychometrics approach to dimensionality and item analysis. We have extended EGA to deal with intensive longitudinal data (dynamic EGA), developed new fit indices based on information and quantum information theory, developed methods to estimate network loadings and network scores that are akin to factor loadings and factor scores, developed new ways to check for dimensionality and item stability, metric invariance, exploratory hierarchical modeling of generalized bifactor structures, the identification of redundant items, and so on.

We have briefly described the most recent advances in the paper below:

Golino, H., Christensen, A. P., & Garrido, L. E. (2022). Invited commentary: Exploratory graph analysis in context. *Revista Psicologia: Teoria e Prática, 24*(3), ePTPPA14197–ePTPPA14197. Available here: https://editorarevistas.mackenzie.br/index.php/ptp/article/view/15531/11531

Also, we recently proposed a new method to quantify the amount of information lost by representing all individuals with the same population structure, a step forward in dealing with the issue of ergodicity in psychology:

Golino, H., Christensen, A. P., & Nesselroade, J. R. (2022, August 2). Towards a psychology of individuals: The ergodicity information index and a bottom-up approach for finding generalizations [Preprint]. *PsyArxiv*. https://psyarxiv.com/th6rm

How can your research be applied to everyday life?

My research focuses on identifying the structure of psychological constructs. It can be applied to everyday life in that it helps dissect the structure of the human mind and the structural organization of human behavior, attitudes, emotions, etc. By better understanding how psychological constructs are structurally organized, we can better understand how human beings work.

What are you currently working on?

I have several exciting projects going on. Methodologically, in the most exciting project right now, we are developing a new fit index that can verify the fit of first and second-order structures simultaneously, termed "generalized total entropy fit index (genTEFI)." The exciting thing about genTEFI is that it was developed as a fit index that can be used to optimize group factors (or first-order factors) and general factors in generalized bifactor structures simultaneously. There's no fit index available in psychometrics that was developed to do that or that was created specifically for generalized bifactor models. We are finishing the simulation studies right now, but the preliminary result shows that genTEFI is absolutely superior to traditional fit indices used in structural equation modeling, especially when the number of general factors is overestimated.

I believe this new fit index, together with hierarchical exploratory graph analysis (a technique that expanded EGA to generalized bifactor structures), will be a game changer in psychometrics. For example, the field of psychopathology nowadays has a hierarchical model termed HiTOP that proposes psychopathologies are hierarchically organized. It is supposed to lead to a modernization of the classification of psychopathology. However, the empirical papers investigating the hierarchical structural organization of psychopathological symptoms rely on techniques not optimized to answer the questions the researchers want to answer. Our new fit index combined with hierarchical EGA can help greatly in that regard, for example.

What do you get out of LIFE as a faculty member?

The most exciting thing about being a LIFE faculty member is learning more about the projects carried out by the students and other fellow faculty members. It is always inspiring, and refreshing and provides several exciting ideas for new research and collaboration.

What is the added value of LIFE's internationality?

LIFE's internationality is crucial to the multidisciplinarity nature of the program. Different universities in different countries will have particular research focuses/environments/philosophies, and blending them all enriches our field tremendously.

Has the COVID pandemic changed the way you work?

It has impacted me a lot and is still affecting my research. Traveling is more complicated, finding child-care help is difficult (if not impossible),

there was an increase in the volume of work demanded by the universities, publishing now is a nightmare, and the quality of peer review has decreased. We're living in a moment of crisis, not only health-related but also in the organization of science in general.

New LIFE Faculty in Zurich

Kaspar Burger is an SNSF Eccellenza Professor at the Jacobs Center for Productive Youth Development and the Department of Sociology of the University of Zurich. He is also an Honorary Associate Professor at the Social Research Institute/Institute of Education of the University College London. He leads a research group that studies educational and life trajectories from longitudinal and cross-national comparative perspectives. The major objective is to examine how psychological, social, and institutional factors influence educational opportunities and outcomes, and how these, in turn, shape later life chances and life courses. Adopting an interdisciplinary approach, the research group integrates theories and methods from education, sociology, psychology, policy studies and statistics. They collect empirical data and perform secondary analyses of longitudinal cohort study data and large-scale international comparative data. A key goal is to generate scientific knowledge that advances theory and informs the design of policies to improve the educational opportunities and life chances of vulnerable children and to enable all children to develop their abilities to their full potential. Kaspar is currently the principal investigator of the project "Understanding Social Gradients in Education: A Psycho-Social-Ecological Framework."
For more information, see https://www.jacobscenter.uzh.ch/en/research/education_and_human_development/research_projects.html.

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Key publications

Burger, K. (2022). Disentangling the interplay of the sense of belonging and institutional channels in individuals' educational trajectories. *Developmental Psychology*. Advance online publication. https://doi.org/10.1037/dev0001448

Burger, K. (2021). Human agency in educational trajectories: Evidence from a stratified system. *European Sociological Review, 37*(6), 952–971. https://doi.org/10.1093/esr/jcab021

Burger, K., & Mortimer, J. (2021). Socioeconomic origin, future expectations, and educational achievement: A longitudinal three-generation study of the persistence of family advantage. *Developmental Psychology, 57*(9), 1540–1558. https://doi.org/10.1037/dev0001238

Ana Costa-Ramón is an Assistant Professor at the Department of Economics at the University of Zurich and the Jacobs Center for Productive Youth Development. She is also a Research Affiliate at CEPR. She received her Ph.D. in economics from Universitat Pompeu Fabra in 2020 and is an applied microeconomist mainly interested in Health, Labor, and Gender Economics.
One strand of her research studies the effect of children's health shocks on children's and families' well-being. To do so, she exploits rich administrative data sources (from Finland and Norway) and contributes to previous literature by providing credible causal estimates of the impact of health shocks during childbirth and from childhood to teenage years. In particular, she studies the effect of children's hospitalizations on parents' labor market outcomes and mental health. She has also published papers analyzing how being born by C-section affects children's later health.
In her second line of research, she studies why women work less or leave the workforce after having children and the implications of this for child development. She is currently designing a field experiment and developing an information intervention to understand if this could change women's aspirations and labor supply decisions.

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Key publications

Breivik, A.-L., & Costa-Ramón, A. (2022). *The career costs of children's health shocks* (Working Paper No. 399). University of Zurich, Department of Economics. https://doi.org/10.2139/ssrn.3960821

Costa-Ramón, A., Kortelainen, M., Rodríguez-González, A., & Sääksvuori, L. (2022). The long-

run effects of cesarean sections. *Journal of Human Resources, 57*(6), 2048–2085. https://doi.org/10.3368/jhr.58.2.0719-10334R1

Costa-Ramón, A., Rodríguez-González, A., Serra-Burriel, M., & Campillo-Artero, C. (2018). It's about time: Cesarean sections and neonatal health. *Journal of Health Economics, 59,* 46–59. https://doi.org/10.1016/j.jhealeco.2018.03.004

Denis Ribeaud has been the scientific coordinator of the Zurich Project on Social Development from Childhood to Adulthood (z-proso) since 2003 and co-directs it since 2011. The z-proso panel study investigates the life-course development of violence and other problem behaviour in a cohort of 1,300 individuals since they started school in the city of Zurich in 2004, the latest wave having been conducted in 2022 at age 25. Multidisciplinary collaboration with researchers from across Europe and the US has resulted in well over 100 peer-reviewed publications: https://www.jacobscenter.uzh.ch/en/research/zproso/aboutus/publication_list.html.
In 2021, Denis also conducted the Zurich Youth Surveys (ZYS) for the fourth time. Since 1999, these surveys have used large representative samples to examine the long-term development of youth violence and delinquency and their risk factors beyond official statistics, most recently in 2021. See https://www.jacobscenter.uzh.ch/en/research/zproso/jugendgewalt/zys2021.html. Denis has a background in sociology and social psychology, and obtained his PhD in criminology at the University of Lausanne.

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Key publications

Ribeaud, D., & Loher, M. (2022). *Entwicklung von Gewalterfahrungen Jugendlicher im Kanton Zürich 1999–2021. Forschungsbericht* [Development of youths' experiences of violence in the canton of Zurich 1999–2021. Research Report]. Jacobs Center for Productive Youth Development, Universität Zürich. https://doi.org/10.5167/uzh-219687

Ribeaud, D., Murray, A., Shanahan, L., Shanahan, M., & Eisner, M. (2022). Cohort profile: The Zurich Project on the Social Development from Childhood to Adulthood (z-proso). *Journal of Developmental and Life-Course Criminology, 8,* 151–171. https://doi.org/10.1007/s40865-022-00195-x

Steinhoff, A., Ribeaud, D., Eisner, M., & Shanahan, L. (2022). Developmental trajectories of other, self-, and dual-harm across adolescence: The role of relationships with peers and teachers. *Psychopathology*. Advance online publication. https://doi.org/10.1159/000525296

Ulf Zölitz is Assistant Professor at the Department of Economics of the University of Zurich and the Jacobs Center for Productive Youth Development. He studied Economics at the University of Bonn and received his PhD in economics from Maastricht University in 2014. From 2014 to 2017 he worked as a postdoctoral researcher at IZA Institute of Labor Economics and briq Institute on Behavior & Inequality in Bonn. Ulf Zölitz's primary research interests are in the field of applied microeconomics. He is interested in labor economics, economics of education and behavioral economics. His current research focuses on peer effects, the role of personality in education and interventions aiming to enhance the development of cognitive skills in children.

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Key publications

Sorrenti, G., Zölitz, U., Ribeaud, D., & Eisner, M. (Eds.). (2020), *The causal impact of socio-emotional skills training on educational success*. CEPR Press Discussion Paper No. 14523. https://cepr.org/publications/dp14523

Marie, O., & Zölitz, U. (2017). "High" achievers? Cannabis access and academic performance. *The Review of Economic Studies, 84*(3), 1210–1237. https://doi.org/10.1093/restud/rdx020

Borghans, L., Golsteyn, B. H. H., & Zölitz, U. (2015). School quality and the development of cognitive skills between age four and six. *PLoS ONE, 10*(7), Article e0129700. https://doi.org/10.1371/journal.pone.0129700

New LIFE Fellows in Berlin, Charlottesville, and Zurich

Muna Aikins. In June 2022, I joined the Max Planck Research Group Biosocial - Biology, Social Disparities, and Development at MPIB. My doctoral research seeks to understand how experiences in childhood and adolescence tied to racial discrimination get under the skin to shape mental and physical health inequalities across the life span. To this end, I plan to examine biological aging indexed in methylomic measures and experience-based indices of discrimination-related stress in adolescents' daily lives.
My academic background is in social science, social work, and human rights. I am a principal investigator of the communities-based Afrozensus research project at Each One Teach One e.V. (EOTO), which is the first survey study on anti-Black racism and discrimination in Germany. My doctoral research will be also partly communities-based research.

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Meghan Costello. I am a Clinical Psychology doctoral student at UVA working with Joe Allen. My research focuses on adolescent social development and the long-term physical, mental, and relational sequelae of teenage experiences. I am particularly interested in the role of emotionally supportive close friendships, and how teens learn to seek and provide help to one another. I also work to design structured programming that facilitates supportive connections among teens and young adults.

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Jens Heumann. I am a PhD student in Sociology and a doctoral research fellow in Mike Shanahan's team Social Genomics at the Jacobs Center for Productive Youth Development. I study the causal effects of early life environment and events on mental and physical health across the life course within an interdisciplinary setting. Among other things, I use experimental and genetic data from the Zurich Brain and Immune Gene Study (ZGIG).

I graduated with a Master's degree in Sociology from the University of Bern. Prior to that, I completed a bachelor's degree in Social Work at ZHAW Zurich and worked for many years as a youth social worker. In my master's thesis, I investigated the impact of liberalization on various poverty indicators of 16 countries in the Global South using a counterfactual framework. My research interests include analytical and computational sociology, social genomics, experiments and quality of life.

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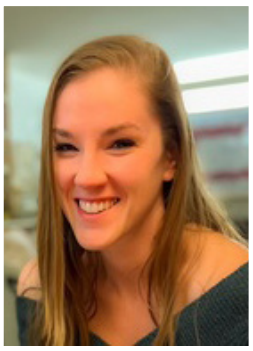

Laura Jamison. I am a doctoral student at UVA under the supervision of Hudson Golino. My research interests focus on network psychometrics, latent variable modeling, and multilevel modeling. I received a bachelor's in Psychology and a bachelor's in Music Performance from the University of North Texas and a master's in Psychology from the University of Virginia. In my master's thesis, I designed a method for optimizing the Walktrap algorithm, a method used for community detection within Exploratory Graph Analysis (EGA). My current work concentrates on creating methods for testing measurement invariance in the network psychometric framework, specifically EGA. Currently, under the supervision of Hudson Golino, I have been devising a method for cross-sectional data that overcomes shortcomings of measurement invariance in traditional statistical modeling (e.g., identifying referent indicators, low power for unequal group sample sizes). My dissertation work will expand this model to include additional groups and longitudinal measurement.

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Lee LeBoeuf. I am a doctoral student at UVA studying developmental psychology with Angeline Lillard. I am also a Virginia Education Science Training (VEST) two-year fellow working with Jason Downer. My primary interest is studying what education contexts promote more equitable outcomes for children of different racial and socioeconomic backgrounds. Specifically, in graduate school I have focussed on Montessori education and asked whether publicly-funded Montessori schools are associated with improved disciplinary outcomes and attendance (relative to non-Montessori schools). I am also interested in improving methodology for education research; my masters thesis proposed a novel method for analyzing racial disparities in suspension records. Before starting graduate school, I was an elementary school teacher in Cleveland, Ohio and a Teach for America Corps member. I graduated from Ohio Wesleyan University in 2017 with a B.A. in psychology.

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Isabelle Moore. I am a cognitive psychology doctoral student at UVA working with Nicole Long. My research focuses on the neural mechanisms that support memory encoding and retrieval, and how those mechanisms change over the lifespan. Specifically, I use a combination of neuroimaging and machine learning techniques to investigate memory organization and false memory formation in both young and older adults. Before starting graduate school, I was a research assistant at the Massachusetts Institute of Technology and Massachusetts General Hospital. I graduated from Brandeis University in 2016 with a B.S. in Neuroscience and Psychology.

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Luianta Verra. I am a PhD student at the Max Planck Research Group NeuroCode, MPI for Human Development, under the supervision of Nicolas Schuck and Ondrej Zika. My research focuses on learning and decision making in the aversive domain with a focus on generalization and replay. I am further interested in how these mechanisms relate to transdiagnostic psychiatric markers such as avoidance behavior in anxiety. To answer these questions, I use behavioral data in combination with computational modelling and imaging techniques.

I received my BSc and MSc in Psychology from Humboldt-Universität zu Berlin. For my Bachelor's thesis I worked on a project on fear learning and learning induced plasticity changes under the supervision of Stephan Moratti at the Universidad Politécnica de Madrid. For my Master's thesis I studied how the brain integrates probabilistic information in order to take optimal decisions under the supervision of Nicolas Schuck and John-Dylan Haynes.

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Dilara Zorbek. I am a PhD candidate at the Adaptive Memory and Decision Making Group headed by Bernd Spitzer at MPI for Human Development. My research interests lie in how humans build mental representations across the lifespan and how we dynamically maintain, change, and purposefully use them. To address these questions, I will use neuroscientific methods, including EEG and MRI in combination with representational similarity analysis, as part of my PhD.

I completed my psychology studies at Freie Universität Berlin, Radboud Universiteit Nijmegen, and the University of New South Wales with a bachelor's thesis on non-symbolic number processing and contributed to a paper (Pennock et al., 2021). Subsequently, I completed the International Graduate Program Medical Neurosciences at Charité Universitätsmedizin with a thesis entitled "Static and time-resolved hippocampal (functional MRI) connectivity in relapsing-remitting multiple sclerosis and associations with clinical impairment."

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LIFE-Related Publications

These include all recent articles reported by *LIFE fellows* as well as selected work by *LIFE alumni*. See also https://www.imprs-life.mpg.de/publications. If your work is missing, please let us know!

Allen, J. P., **Costello, M.**, **Kansky, J.**, & Loeb, E. L. (2022). When friendships surpass parental relationships as predictors of long-term outcomes: Adolescent relationship qualities and adult psychosocial functioning. *Child Development, 93,* 760–777. https://doi.org/10.1111/cdev.13713

Allen, J. P., Danoff, J. S., **Costello, M. A.**, Hunt, G. L., Hellwig, A.F., Krol, K. M., Gregory, S. G., Giamberardino, S. N., Sugden, K., & **Connelly, J. J.** (2022). Lifetime marijuana use and epigenetic age acceleration: A 17-year prospective examination. *Drug and Alcohol Dependence, 233,* Article e109363. https://doi.org/10.1016/j.drugalcdep.2022.109363

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Bechtiger, L., Steinhoff, A., Dollar, J. M., Calkins, S. D., Keane, S. P., Shriver, L., Wideman, L., & **Shanahan, L.** (2022). Maternal depressive symptoms and adolescents' unhealthy behavior: A 15-year longitudinal study. *Pediatrics, 150*(4), Article e2022056562. https://doi.org/10.1542/peds.2022-056562

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LIFE News

- The *Spring Academy 2023* is being planned at UM to take place from May 18 to 20.
- The *Fall Academy 2023* at UZH is in planning for November 14–17.
- UM alumnus *Alvin Thomas* has received the LIFE Outstanding Alumni Award 2022 (see p. 6).

Exchanges

- UVA fellow *Katie Daniel* spent September and October in Berlin working with HU faculty *Manuel Völkle*.
- UM alumna *Pia Lalwani*, meanwhile postdoc at the University of California, Irvine, revisited the Lifespan Neural Dynamics Group headed by MPIB faculty *Doug Garrett* from August until October as an exchange delayed by COVID.
- LIFE Zurich has funding on offer for LIFE exchanges to and from UZH. Please contact *Ines Florin* <ines.florin@jacobscenter.uzh.ch> if you are interested in visiting a Zurich LIFE faculty member or if you are a Zurich fellow planning an exchange to another LIFE site in 2023.

LIFE Berlin

- *Muna Aikins*, *Luianta Verra*, and *Dilara Zorbek* have joined LIFE Berlin as fellows (see pp. 28ff. for more information).
- *Warsha Barde* and *Marlene Hecht* have become the new fellow speakers in Berlin. A big thank you to their predecessors *Michael Geers* and *Sina Schwarze*!
- Five Berlin fellows took part in the presentation training by Steve Weir before and after the Fall Academy.
- Several Berlin fellows are participating in *Steve Boker's* "Dynamical Systems Analysis" class online. They are very grateful to Steve for this opportunity.
- MPIB fellow *Elisa Buchberger* and her project teams have received the following seed project grants (2023–2025, CHF 75,000 respectively) from the Jacobs Foundation: "Memory availability versus accessibility in early ontogeny across species" and "Developmental ways to generalization."
- MPIB alumna *Yana Fandakova* has left MPIB to take up a W2 professorship in Cognitive Neuropsychology and Development at the University of Trier, Germany in October.
- MPIB fellow *Michael Geers* has received the the Joachim Herz Add-on Fellowship for Interdisciplinary Business Administration (€12,500) as well as the Psychonomic Society's Graduate Conference Award ($1,000) for his abstract entitled "Individuals with higher metacognitive insight into their political knowledge have higher need for evidence and lower faith in intuition and belief that truth is political." He has also completed a PhD visit at the Network Science Institute, Northeastern University, visiting Briony Swire-Thompson from August to September.
- HU alumna Tanja Gerlach has taken up a position as a Lecturer (Assistant Professor) at Queen´s University Belfast.
- MPIB fellow *Ann-Kathrin Jöchner* has submitted her thesis entitled "Sleep-Associated Memory Consolidation Across Child and Ad-

olescent Development — Different yet the Same?" to Ruhr-Universität Bochum.

- Faculty *Gerd Kempermann*, Center for Regenerative Therapies Dresden (CRTD) and German Center for Neurodegenerative Diseases (DZNE) Dresden, was appointed as member of the German National Academy of Sciences Leopoldina.
- Faculty *Naftali Raz* has taken up a professorship at Stony Brook University in July.
- Faculty *David Richter* has taken up the directorship of the new SHARE Berlin Institute. The Survey of Health, Ageing and Retirement in Europe (SHARE) is a research infrastructure for studying the effects of health, social, and economic policies across European citizens' life courses and is now embedded in a collaboration of four leading research institutions: the WZB Berlin Social Science Center, DIW Berlin, Charité – Universitätsmedizin Berlin, and the DZA. SHARE is the largest pan-European social science panel study providing internationally comparable longitudinal microdata.
- MPIB fellow *Connair Russell* has successfully defended his thesis entitled "Error Management in Learning and Generalisation: The Domain of Food." He is now a Research Fellow at Queen's University Belfast.
- Alumnus and Faculty *Nicolas Schuck* is leaving MPIB for a professorship for Learning and Change Mechanisms at Universität Hamburg's Department of Psychology. He will continue to lead the MPRG NeuroCode.
- FU alumna *Mareike Trauernicht* was awarded the second prize of the Deutscher Studienpreis by the Körber-Stiftung for her dissertation.
- The Berlin LIFE seminar "Methods in Research on Human Development" has begun and is being taught by experts including Berlin alumna *Janne Adolf* (now at KU Leuven, Belgium), LIFE faculty *Michael Eid*, *Douglas Garrett*, *Ulman Lindenberger*, and *Manuel Völkle* as well as external guests. See https://www.imprs-life.mpg.de/life-program/curriculum/seminars/winter-2022-23
- The Introductory LIFE Workshop for the new fellows is in planning, due to take place partly via e-learning and in a half-day session at MPIB in December.

LIFE Michigan

- Fellow *Blake Ebright* and faculty *Kai Cortina* and *Kevin Miller* received the 2022 American Educational Research Association (AERA) Carol Weinstein Outstanding Research Paper Award for "Scrutiny and opportunity: Mobile eye-tracking demonstrates differential attention paid to Black students by teachers."
- Fellow *Madison Fansher* and co-authors (including UM alumna *Pia Lalwani* and faculty *Priti Shah*) have won the 2022 Psychonomic Society Best Article Award for:

  Fansher, M., Adkins, T. J., Lalwani, P., Boduroglu, A., Carlson, M., Quirk, M., Lewis, R. L., Shah, P., Zhang, H., & Jonides, J. (2022). Icon arrays reduce concern over COVID-19 vaccine side effects: A randomized control study. *Cognitive Research, 7,* Article 38. https://doi.org/10.1186/s41235-022-00387-5
- Together with a collaborator at Marquette University, fellow *Rita Hu* was funded by Marquette's Institute for Women's Leadership to conduct an ethnographic study on the intersectionality between ageism and sexism in the social setting of a retirement community. She has also been elected as the incoming vice chair for the Gerontological Society of America's Emerging Scholars and Professional Organization starting January 2022.
- Alumna *Morgan Jerald* has taken up a position as Assistant Professor of Psychology at the University of Wisconsin, Madison. She has moved her Intersectionality and Marginalization Lab there and will continue to focus on how different systems of oppression and social identities intersect to influence people's experiences.
- Former LIFE faculty *Arnold Sameroff* received the International Congress of Infant Studies (ICIS) Distinguished Contribution Award. This award recognizes "luminaries in the field who made the science of infancy what it is today."

LIFE Virginia

- *Meghan Costello*, *Laura Jamison*, *Lee LeBoeuf*, and *Isabelle Moore* have joined LIFE as new fellows (see pp. 28ff. for more information).
- *Lee LeBoeuf* and *Laura Jamison* are the new UVA Fellow Speakers.
- Alumna *Riana Elyse Anderson,* Assistant Professor at UM's School of Public Health, is cur-

rently a Fellow at the Center for Advanced Study in the Behavioral Sciences at Stanford (CASBS). Following her term at CASBS, Riana will be a Harvard Hutchins Center fellow (2023–24) and then an associate professor at Columbia University (2024–).

- Fellow *Lee LeBoeuf* was awarded the 2022 American Educational Research Association Division D mini grant for research on methodological issues related to Diversity, Equity, & Inclusion ($5,000). She has also been awarded a VEST fellowship to work with Jason Downer at the School of Education. The Virginia Education Sciences Training (VEST) Program prepares students to apply theory and methods from the social sciences to research on schools and classrooms.
- Fellow *Laura Jamison* was awarded a Distinguished Teaching Fellowship from UVA and will be teaching Anti-Racist Research Methods and Statistics in the spring of 2023.
- Fellow *Tara Valladares* successfully defended her dissertation entitled "A Psychometric Evaluation of Emotion Detection Lexicons: Construct Validity and Measurement Differences" in September. She is taking up a position as a data scientist at a local analytics and software engineering firm.
- Alumna *Alexandra Werntz* has joined the Center for Evidence-Based Mentoring at the University of Massachusetts Boston as Associate Director.
- Alumna *Erin Westgate*, meanwhile Assistant Professor of Psychology at the University of Florida, and Shige Oishi, Professor of Psychology at UVA, are the 2022 recipients of one of the Society for Personality and Social Psychology's two Wegner Theoretical Innovation Prizes, which recognize the authors of an article or book chapter judged to provide the most innovative theoretical contribution to social/personality psychology. They were honored for:

  Oishi, S., & Westgate, E. C. (2022). A psychologically rich life: Beyond happiness and meaning. *Psychological Review, 129*(4), 790–811. https://doi.org/10.1037/rev0000317

- *Sean Womack* successfully defended his dissertation entitled "Genetic and Environmental Correlates of Physical and Development in Twins: A Prospective Study of Recovery from Early Bio-Environmental Adversity."

LIFE Zurich

- *Jens Heumann* has joined LIFE Zurich as a fellow (see p. 28 for more information).
- *Kaspar Burger*, *Ana Costa Ramón*, *Denis Ribeaud*, and *Ulf Zölitz* have joined LIFE Zurich as faculty (see pp. 26f. for more information).
- Fellow *Laura Bechtiger* received a Graduate Campus Grant (UZH) to organize a workshop on „Advancing quantitative perspectives in education science" together with Francesca Mele and Kevin Schönholzer.
- Faculty *Wiebke Bleidorn* has been awarded the Charlotte und Karl Bühler-Preis by the German Psychological Society (DGPs) for her excellent work on personality stability and change.
- Alumna *Julia Brehm* has taken up a position as a data engineering analyst with Accenture Switzerland in Zurich.
- Fellow *Christine Dworschak* received the first prize for her poster at the European Association of Clinical Psychology and Psychological Treatment (EACLIPT) Conference 2022 held in Warsaw.
- *Christine Dworschak* is going to Yale University from January until April 2023. She will be working on a longitudinal project investigating the role of social stress in the development of psychopathology using objective measures (e.g., cortisol, eye-tracking) at the Affect Regulation and Cognition lab under the supervision of Jutta Joormann.
- Fellow *Natascha Helbling* will be visiting Lancaster University in the Spring term 2023.
- Faculty *Christopher Hopwood* has received the Society for Personality Assessment Mid-Career Scholar Award.
- Faculty *Lutz Jäncke* has retired. LIFE thanks him for his contributions!
- Faculty *Urte Scholz* and *Alexandra M. Freund* have been granted funding (approx. 500.000 CHF) by the Swiss National Science Foundation (SNSF) for the project "Promoting health-protective behaviors and well-being in pandemics: The role of social relationships" in the context of the National Research Program "COVID-19 in Society."

Frequently used acronyms in LIFE

CRTD: Center for Regenerative Therapies Dresden

DIW: Deutsches Institut für Wirtschaftsforschung [German Institute for Economic Research]

DZA: Deutsches Zentrum für Altersfragen [German Centre of Gerontology]

DZNE: Deutsches Zentrum für Neurodegenerative Erkrankungen Dresden [German Center for Neurodegenerative Diseases]

FU: Freie Universität Berlin

HU: Humboldt-Universität zu Berlin

LIFE: International Max Planck Research School on the Life Course

MPIB: Max-Planck-Institut für Bildungsforschung [Max Planck Institute for Human Development]

UM: University of Michigan

UVA: University of Virginia

UZH: University of Zurich

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Happy Holidays to the whole of LIFE from the Berlin site!

LIFE Newsletter

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Aim of the newsletter
The LIFE newsletter encourages collaboration and interaction among people within the LIFE program. It provides an information platform where fellows, alumni, and faculty members can learn more about each other's research, and identify colleagues with similar interests and possible projects for collaboration.

Contributions
Please send contributions, suggestions, and input to the editor.

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