

Department of Behavioural Sciences and Learning

Division of Psychology 2022 Annual Report

Σ Ψ '22



This is the 10th annual report of the publications from the division of Psychology at the Department of Behavioural Sciences and Learning, Linköping University, Sweden. The psychology division has several researchers and research groups. We cover a broad range of topics within psychology, including cognitive, developmental, social, health and clinical psychology. Different research methods are also represented. Researchers at the division work closely with other universities both nationally and internationally. This year we note a large number of completed PhD dissertations. We hope that the annual report will give an overview of the research conducted here and that it can be useful for students, researchers and other colleagues who are interested in psychology and the research we do here in Linköping.

A handwritten signature in black ink, appearing to read 'Gerhard Andersson', written over a horizontal line.

Gerhard Andersson, PhD, professor
Editor for the Annual Report 2022

Peer-reviewed articles, book chapters and books¹

Alawa, J., Muhammad, M., Kazemitabar, M., Bromberg, D. J., *Garcia, D.*, Khoshnood, K., Ghandour, L. (2022). Medication for opioid use disorder in the arab world: A systematic review. *International Journal of Drug Policy*, 102, 103617.

Opioid use disorder (OUD) is a global public health concern. The standard of care for OUD involves treatment using medications such as buprenorphine, methadone, or naltrexone. No known review exists to assess the contextual factors associated with medication for opioid use disorder (MOUD) in the Arab World. This systematic review serves as an implementation science study to address this research gap and improve the uptake of MOUD in the Arab World. We used systematic searches of Medline, PsycINFO, and EMBASE, and a citation analysis, to identify peer-reviewed articles with original data on MOUD in the Arab World. Quality assessment was conducted using the CASP appraisal tools, and main findings were extracted and coded according to the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) framework. A total of 652 research articles were identified, and 10 met inclusion criteria for final review. Four studies considered health-systems aspects of MOUD administration, such as cost-effectiveness, the motivations for and impact of national MOUD policies, the types of social, political, and scientific advocacy that led to the adoption of MOUD in Arab countries, and the challenges limiting its wide-scale adoption in the Arab World. Six papers considered MOUD at individual and group patient levels by evaluating patient quality of life, addiction severity, patient satisfaction, and patient perspectives on opioid agonist therapy. Despite financial and geographic barriers that limit access to MOUD in the Arab World, this review found MOUD to be cost-effective and associated with positive health outcomes for OUD patients in the Arab World. MOUD can be successfully established and scaled to the national level in the Arab context, and strong coalitions of health practitioners can lobby to establish MOUD programs in Arab countries. Still, the relative novelty of MOUD in this context precludes an abundance of research to address its long-term delivery in the Arab World.

¹ Member of the division in italics.

Andersson, C., Bendtsen, M., Molander, O., Granlund, L., *Topooco*, N., Engström, K., Lindfors, P., & Berman, A. H. (2022). Symptoms of COVID-19 contagion in different social contexts in association to self-reported symptoms, mental health and study capacity in Swedish university students. *BMC Research Notes*, *15*, 131.

The present study investigates if symptoms of COVID-19 contagion in different social contexts (cohabitants, family, acquaintances, and others) are associated with university students' own self-reported symptoms of COVID-19 contagion, mental health, and study capacity. This was investigated by a cross-sectional survey administrated in Sweden during the first wave of the COVID-19 pandemic, at the time when universities were locked down to limit viral spread and contagion. Mild to moderate symptoms of COVID-19 in cohabitants and family members were associated with student's self-reported symptoms of contagion, while no associations could be seen in relation to mental health and study capacity. Symptoms of COVID-19 contagion in acquaintances and others were not associated with students' self-reported symptoms, nor with their mental health and study capacity. To conclude, during the initial lockdown of universities students' self-reported symptoms of contagion were mainly associated with cohabitants and family members, while symptoms of contagion in different social contexts were not associated with mental health and study capacity. Findings suggest that lockdown of universities may have contributed to limiting infection pathways, while still allowing students to focus on their studies despite significant contagion among others known to the student.

Andersson, G. (2022). Tinnitus in 2021. Time to consider evidence-based digital interventions. Lancet Regional Health - Europe, 12, 100263.

Severe tinnitus is common. Across Europe services are not well developed and a vast majority of patients do not receive adequate care. Future research on the availability and modes of care are necessary. One possible way to reduce the treatment-demand gap could be to disseminate digital treatments, but more data is needed on their safety and effectiveness in well-controlled trials.

Andersson, G. (2022). Internet-delivered psychological treatments for tinnitus: a brief historical review. American Journal of Audiology, 31, 1013-1018.

Internet-delivered psychological treatments were developed more than 20 years ago, and tinnitus was among the first target conditions. The aim of this review article is to describe the history of Internet treatments for tinnitus and to comment

on the evidence base. Challenges for future research and implementations are mentioned. A narrative historical review was conducted. There are now several studies including controlled trials on Internet interventions based on cognitive behavior therapy (ICBT) for tinnitus. Effects in controlled trials are moderate to large with regard to tinnitus annoyance. While the treatment format now exists in four languages, there is a large treatment versus demand gap as very few clients with tinnitus receive ICBT. There is a lack of research on related conditions with the exception of hearing loss. However, there is substantial support for Internet interventions for comorbid conditions such as insomnia and depression but not specifically in association with tinnitus. ICBT is a promising treatment approach for tinnitus and will hopefully increase access to evidence-based treatment to reduce tinnitus distress. More research is needed for related conditions such as hyperacusis and larger trials on tinnitus.

Andersson, G. (2022). Internet-based psychotherapies. In D. J. Stein, N. A. Fineberg, & S. R. Chamberlain (Eds.), Mental health in a digital world (pp. 377-394). Academic Press.

The evidence for internet-based psychotherapies and other technology-based interventions is increasing rapidly. In addition to a description of how internet treatments can be delivered this chapter also provides a comprehensive overview of the field, including different treatment formats, target groups, research support and clinical implementations. While guided internet-based psychotherapies tend to work as well as face-to-face treatments they are still not widely implemented. Ongoing work will be commented on and future directions are suggested.

Andersson, G. (2022). Hearing disorders and dizziness. In S. S. Pedersen, K. K. Roessler, T. E. Andersen, A. T. Johnsen, & F. Pouwer (Eds.), Textbook of applied medical psychology. A multidisciplinary approach (pp. 321-347): University press of Southern Denmark.

Hearing disorders such as tinnitus, noise sensitivity as well as dizziness or balance problems are common conditions seen in medical settings such as general practice (GP) and in specialized audiology/ear-nose-throat clinics. The conditions often overlap, but can also exist in isolation. They are all frequently associated with psychological distress and lowered quality of life. Hearing disorders and dizziness can occur across the life-span, but tend to be more common among older populations. In fact, it is more than half suffer from reduced hearing capacity than at 70 years old and older. Tinnitus, which is usually defined as constant ringing or buzzing in the ears, is also very common among adults. However, while most persons are not much bothered by their tinnitus, a significant proportion is (2/10). As with many other chronic health problems psychological factors such as low

mood and anxiety are strongly associated with the experience and the same applies to dizziness and balance problems. Dizziness is a multifactorial problem, but it is often linked with the vestibular system in the inner ear and the interaction between this system, proprioception and vision. Sensitivity to sounds is a fourth problem covered in this chapter, again being a condition that can occur in different health care settings but also frequently in hearing clinics. A special phenomena called hyperacusis is a disabling condition where the patient is sensitive to ordinary everyday sound that are not perceived as loud for other persons. This condition is also fairly common with at least 5% of the adult population experiencing hyperacusis. The chapter cover these four conditions and their psychological impact but also the role of psychological factors when coping with the conditions. On a related note, mechanisms likely to be involved (for example classical conditioning and catastrophizing) are mentioned. Moving on to screening the chapter continues with a description of how psychological treatment can be helpful including cognitive behaviour therapy delivered face-to-face and via the internet. The chapter ends with clinical advice and future directions in research and practice.

Andersson, G. (2022). Intervenções baseadas na internet: estado da arte. In C. B. Neufeld & K. P. Szupczynski (Eds.), Intervenções on-line e terapias cognitivo-comportamentais (pp. 2-19): Artmed.

Description and overview of the evidence behind internet-delivered cognitive behavioural therapies.

Andersson, G., & Carlbring, P. (2022). Internet interventions in clinical psychology. In G. J. G. Asmundson (Ed.), Comprehensive clinical psychology (Vol. 2, pp. 194-205): Elsevier.

In this chapter we covered several applications and research studies on internet interventions. We conclude that this fairly novel research field has developed rapidly to the extent that there are now some problem areas for which there is stronger research support for internet interventions than standard face-to-face delivery and this is likely to continue with large internet intervention trials and clinical series reports being published. While the field started with ICBT there are now other therapy orientations represented in the research which may change attitudes and willingness to use digital technology. Having said that, we do believe that standard face-to-face meetings and therapy sessions will be needed and that we will find the best way to combined technology and human interaction to help clients with their problems.

Andersson, G., & Beukes, E. W. (2022). Internet-delivered guided self-help treatments for tinnitus. In R. Tyler & A. Perreau (Eds.), *Tinnitus treatment: Clinical protocols* (2 ed., pp. 26-41): Thieme.

This chapter presents an approach to tinnitus management using cognitive behavioral therapy implemented via the Internet. Self-help in the management of tinnitus is briefly reviewed together with the rationale for guided internet-delivered self-help. The practical aspects of providing an internet-based intervention are outlined. These include adherence, security, and technical considerations. The chapter ends with a summary of the research conducted and the outcomes obtained using internet-delivered cognitive behavioral therapy.

Andersson, H., Aspegqvist, E., Dahlström, Ö., Svedin, C. G., Jonsson, L. S., Landberg, Å., & Zetterqvist, M. (2022). Emotional dysregulation and trauma symptoms mediate the relationship between childhood abuse and nonsuicidal self-injury in adolescents. *Frontiers in Psychiatry, 13*, 897081.

Nonsuicidal self-injury (NSSI) is common in adolescents. Emotion dysregulation has been identified as a core mechanism in the development and maintenance of NSSI and it is therefore an important target when addressing NSSI. The pathogenic connection between different kinds of childhood abuse, difficulties in emotion regulation and NSSI needs further investigation. The objective of this study was to examine whether difficulties with emotion regulation and trauma symptoms, separately and together, mediate the relationships between sexual, physical and emotional abuse and NSSI. Cross-sectional data was collected from 3,169 adolescent high-school students aged 16–19 years ($M = 18.12$, $SD = 0.45$). Data from self-reported experiences of childhood abuse, current difficulties with emotion regulation (measured with the Difficulties with Emotion Regulation Scale, DERS-16) and trauma symptoms (measured with the Trauma Symptom Checklist for Children, TSCC), and NSSI were collected. Structural Equation Modeling (SEM) was used to test the proposed relationships between variables. The prevalence of life-time NSSI was 27.4%. Prevalence of reported childhood abuse was 9.2, 17.5, and 18.0% for sexual, physical, and emotional abuse, respectively. Childhood abuse, difficulties with emotion regulation and trauma symptoms exhibited significant positive associations with NSSI in adolescents. Emotional dysregulation and trauma symptoms were both found to mediate the relationship between childhood abuse and NSSI. Latent variable models were found to fit data well. Results indicate that increased levels of emotional dysregulation and trauma symptoms in relation to childhood abuse contribute to the increased risk of NSSI. Further, results point to some aspects of emotional

dysregulation and trauma symptoms being more important in this regard. Clinical implications are discussed.

Andersson, P. A. (2022). Norms in prosocial decisions : The role of observability, avoidance, and conditionality. Linköping Studies in Arts and Science 835, Linköping Studies in Behavioural science 241, Linköping University.

Prosocial behaviors benefit other people and range from donations to charity to behavior limiting the spread of disease, such as masking and vaccination. The overarching purpose of this thesis was to contribute to our understanding of how social norms and conformity affect prosocial behavior. Here, three norm-related factors that affect such prosocial behavior were investigated: observability, avoidance and conditionality. Observability concerns whether a person is being observed during prosocial decisions, which can typically increase conformity to norms. Avoidance concerns whether a person avoids or seeks out knowledge about prosocial norms. Conditionality concerns the conditional nature of when behavior shifts occur in relation to others behavior. For instance, a person may want to follow a prosocial norm only if a very large majority adheres to it, or only if the goal of the norm is realistic to attain. Paper I focused on observability of prosocial decisions. Making decisions while knowing they would be shown to others increased prosocial behavior in the form of cooperation in a Public Goods Game, and preferences for deontological choices in moral dilemmas, but not donations given to charity. Paper II examined the existence of avoidance behavior regarding social norm about donations. Such norm avoiders appeared to be comprised of both prosocial and less prosocial individuals. Paper III investigated the interplay between descriptive (what people do) and injunctive (what one should do) norms in regards to masking during COVID-19. Paper IV then explored how varying the goal set for a prosocial norm affects willingness to try to achieve the goal, in the context of thresholds for herd immunity and vaccines for COVID-19. Some individuals were demotivated by seeing a higher goal as harder to achieve and others were motivated by believing a higher goal to lead to more people getting vaccinated. Taken together, these papers point to the inherent complexity of how norms relate to prosocial behavior, and suggest relevant aspects to consider when wanting to promote prosocial behavior.

Andersson, P. A., Erlandsson, A., & Västfjäll, D. (2022). Norm avoiders: The effect of optional descriptive norms on charitable donations. *Journal of Behavioral Decision Making*, 35, e2244.

Knowing the descriptive norm concerning others' prosociality could affect your behavior, but would you seek out or avoid such knowledge? This high-powered preregistered experiment explores the effect of both forced and optionally revealed descriptive norms on real monetary donations. These norms were established by learning the proportion of previous participants who had donated to a charitable organization that the respondent now was asked to donate to. For those learning about a norm, participants were more likely to donate if they were shown that a majority donates, compared with if they were shown that a minority donates. For the participants who were asked if they wanted to reveal the norm or not, we found that about half choose to reveal the norm. Those who avoided revealing the norm donated less frequently; both compared with revealers and with those who were forced to view the norm. However, these norm avoiders also donate a higher mean amount. Taken together, this hints at norm avoiders being composed of both altruistic and non-altruistic people, with fewer of those who are undecided. This type of norm avoidance may be more related to information avoidance motives rather than mere curiosity or reactance. The present findings can inspire further research into the motives of norm avoidance.

Andersson, P. A., Tinghög, G., & Västfjäll, D. (2022). The effect of herd immunity thresholds on willingness to vaccinate. *Humanities and Social Sciences Communications*, 9, 243.

Throughout the COVID-19 pandemic, media and policymakers openly speculated about the number of immune citizens needed to reach a herd immunity threshold. What are the effects of such numerical goals on the willingness to vaccinate? In a large representative sample ($N = 1540$) of unvaccinated Swedish citizens, we find that giving a low (60%) compared to a high (90%) threshold has direct effects on beliefs about reaching herd immunity and beliefs about how many others that will get vaccinated. Presenting the high threshold makes people believe that herd immunity is harder to reach (on average about half a step on a seven-point scale), compared to the low threshold. Yet at the same time, people also believe that a higher number of the population will get vaccinated (on average about 3.3% more of the population). Since these beliefs affect willingness to vaccinate in opposite directions, some individuals are encouraged and others discouraged depending on the threshold presented. Specifically, in mediation analysis, the high threshold indirectly increases vaccination willingness through the belief that many others will get vaccinated ($B = 0.027, p = 0.003$). At the same time, the high threshold also decreases vaccination willingness through the belief

that the threshold goal is less attainable ($B = -0.053, p < 0.001$) compared to the low threshold condition. This has consequences for ongoing COVID-19 vaccination and future vaccination campaigns. One message may not fit all, as different groups can be encouraged or discouraged from vaccination.

Arnison, T., Schrooten, M. G. S., Hesser, H., Jansson-Fröjmark, M. & Persson, J. (2022). Longitudinal, bidirectional relationships of insomnia symptoms and musculoskeletal pain across adolescence: the mediating role of mood. *Pain, 163*, 287-298.

Previous studies have established a bidirectional relationship between sleep and pain, and mood has been proposed as a mediator of this relationship. There are only a limited number of longitudinal studies examining the mediational role of mood, and the directionality of effects between sleep, pain, and mood is uncertain. In addition, despite the high prevalence of pain and sleep problems during adolescence, these relationships have rarely been examined in a longitudinal sample of adolescents. Here, longitudinal survey data with 5 yearly measurements were used to examine the bidirectional relationship between insomnia symptoms and pain across adolescence ($M^{\text{baseline age}} = 13.65$ years, $N^{\text{baseline}} = 2767$). We also explored if depressed mood, positive affect, and anxious mood are mediators in both directions of the sleep–pain relationship. Using latent variables for insomnia, pain, and mood at multiple time points, the data were analyzed with cross-lagged panel models for longitudinal data with structural equation modeling. Current results confirmed a bidirectional relationship between insomnia symptoms and pain, where the effect of insomnia symptoms on pain was stronger than vice versa. Depressed mood and anxious mood mediated the effect of insomnia symptoms on pain, but not the reverse effect of pain on insomnia symptoms. Positive affect did not serve as a mediator in either direction. These findings add novel insights into the temporal directionality of sleep, pain, and mood during adolescence, suggesting a temporal path from sleep to pain, through mood, rather than a reciprocal relationship between the constructs.

Aspernäs, J., Erlandsson, A. & Nilsson, A. (2022). Motivated formal reasoning: Ideological belief bias in syllogistic reasoning across diverse political issues, *Thinking & Reasoning, 29*, 43-69.

This study investigated ideological belief bias, and whether this effect is moderated by analytical thinking. A Swedish nationally representative sample ($N = 1005$) evaluated non-political and political syllogisms and were asked whether the conclusions followed logically from the premises. The correct response in the political syllogisms was aligned with either leftist or rightist political ideology.

Political orientation predicted response accuracy for political but not non-political syllogisms. Overall, the participants correctly evaluated more syllogisms when the correct response was congruent with their ideology, particularly on hot-button issues (asylum to refugees, climate change, gender-neutral education, and school marketization). Analytical thinking predicted higher accuracy for syllogisms of any kind among leftists, but it predicted accuracy only for leftist and non-political syllogisms among rightists. This research contributes by refining a promising paradigm for studying politically motivated reasoning, demonstrating ideological belief bias outside of the United States across diverse political issues, and providing the first evidence that analytical thinking may reduce such bias.

Asutay E., & Västfjäll, D. (2022). The continuous and changing impact of affect on risky decision-making. Scientific Reports 12, 10613.

Affective experience has an important role in decision-making with recent theories suggesting a modulatory role of affect in ongoing subjective value computations. However, it is unclear how varying expectations and uncertainty dynamically influence affective experience and how dynamic representation of affect modulates risky choices. Using hierarchical Bayesian modeling on data from a risky choice task (N = 101), we find that the temporal integration of recently encountered choice parameters (expected value, uncertainty, and prediction errors) shapes affective experience and impacts subsequent choice behavior. Specifically, self-reported arousal prior to choice was associated with increased loss aversion, risk aversion, and choice consistency. Taken together, these findings provide clear behavioral evidence for continuous affective modulation of subjective value computations during risky decision-making.

Asutay E., Genevsky, A., Hamilton, P., & Västfjäll, D. (2022). Affective context and uncertainty drive momentary affective experience. Emotion 22, 1336-1346.

Affect fluctuates in a moment-to-moment fashion, reflecting the continuous relationship between the individual and the environment. Despite substantial research, there remain important open questions regarding how a stream of sensory input is dynamically represented in experienced affect. Here, approaching affect as a temporally dependent process, we show that momentary affect is shaped by a combination of the affective impact of stimuli (i.e., visual images for the current studies) and previously experienced affect. We also found that this temporal dependency is influenced by uncertainty of the affective context. Participants in each trial viewed sequentially presented images and subsequently reported their affective experience, which was modeled based on images' normative affect ratings and participants' previously reported affect. Study 1 showed that self-reported valence and arousal in a given

trial is partly shaped by the affective impact of the given images and previously experienced affect. In Study 2, we manipulated context uncertainty by controlling occurrence probabilities for normatively pleasant and unpleasant images in separate blocks. Increasing context uncertainty (i.e., random occurrence of pleasant and unpleasant images) was associated with increased negative affect. In addition, the relative contribution of the most recent image to experienced pleasantness increased with increasing context uncertainty. Taken together, these findings provide clear behavioral evidence that momentary affect is a temporally dependent and continuous process, which reflects the affective impact of recent input variables and the previous internal state, and that this process is sensitive to the affective context and its uncertainty.

Berg, I., Hovne, V., Carlbring, P., Bernhard-Oettel, C., Oscarsson, M., Mechler, J., Lindqvist, K., *Topooco, N., Andersson, G., & Philips, B.* (2022). “Good job!”: Therapists’ encouragement, affirmation, and personal address in Internet-based cognitive behavior therapy for adolescents with depression. *Internet Interventions, 30*, 100592.

Internet-delivered interventions are generally effective for psychological problems. While the presence of a clinician guiding the client via text messages typically leads to better outcomes, the characteristics of what constitutes high-quality communication are less well investigated. This study aimed to identify how an internet therapist most effectively communicates with clients in internet-delivered cognitive behavioral therapy (ICBT). Using data from a treatment study of depressed adolescents with a focus on participants who had a positive outcome, messages from therapists were analyzed using thematic analysis. The study focused on the therapist's 1) encouragement and 2) affirmation, and how the therapists used 3) personal address. The analysis resulted in a total of twelve themes (Persistence Wins, You Are a Superhero, You Make Your Luck, You Understand, Hard Times, You Are Like Others, My View on the Matter, Time for a Change, Welcome In, Let Me Help You, You Affect Me, and I Am Human). Overall, the themes form patterns where treatment is described as hard work that requires a motivated client who is encouraged by the therapist. The findings are discussed based on the cognitive behavioral theoretical foundation of the treatment, prior research on therapist behaviors, and the fact that the treatment is provided over the internet.

Berg, M., Lindegaard, T., Flygare, A., Sjöbrink, J., Hagvall, L., Palmebäck, S., Klemetz, H., Ludvigsson, M., & Andersson, G. (2022). Internet-based CBT for adolescents with low self-esteem: a pilot randomized controlled trial. *Cognitive Behaviour Therapy*, 51, 388-407.

Low self-esteem is a common problem among adolescents and is related to psychiatric problems such as depression and anxiety. However, effective and available interventions primarily targeting low self-esteem are scarce, in particular for youths. To address this gap, the aim of this pilot study was to evaluate a novel internet-based Cognitive Behavioral Therapy (ICBT) program for low self-esteem in adolescents using a randomized controlled design. Fifty-two participants (15-19 years) were recruited and randomly allocated to seven weeks of therapist-supported ICBT (n=26) or to a waitlist control condition (n=26). The primary outcome was the Rosenberg Self-Esteem Scale (RSES). Secondary outcomes measured domain-specific aspects of self-esteem, self-compassion, quality of life, depression and anxiety. The treatment group showed significantly higher levels of self-rated self-esteem compared to the control group at post-treatment, with a large between-group effect-size (RSES, $d = 1.18$). Further, the treatment had significant positive impact on secondary measures of self-esteem, self-compassion, quality of life, depression and anxiety. The results of this pilot-RCT suggest that ICBT can be effective for treating low self-esteem in adolescents, decrease depression and anxiety levels, and increasing quality of life. Replication of the results in larger samples is needed.

Berman, A. H., Bendtsen, M., Molander, O., Lindfors, P., Lindner, P., Granlund, L., Topooco, N., Engström, K., & Andersson, C. (2022). Compliance with recommendations limiting COVID-19 contagion among university students in Sweden: associations with self-reported symptoms, mental health and academic self-efficacy. *Scandinavian Journal of Public Health*, 50, 70-84.

The COVID-19 containment strategy in Sweden uses public health recommendations relying on personal responsibility for compliance. Universities were one of few public institutions subject to strict closure, meaning that students had to adapt overnight to online teaching. This study investigates the prevalence of self-reported recommendation compliance and associations with self-reported symptoms of contagion, self-experienced effects on mental health and academic self-efficacy among university students in Sweden in May-June 2020. This was a cross-sectional 23 question online survey in which data were analysed by multinomial regression, taking a Bayesian analysis approach complemented by null hypothesis testing. A total of 4495 students consented to respond.

Recommendation compliance ranged between 70% and 96%. Women and older students reported higher compliance than did men and younger students. Mild to moderate COVID-19 symptoms were reported by 30%, severe symptoms by fewer than 2%; 15% reported being uncertain and half of the participants reported no symptoms. Mental health effects were reported by over 80%, and changes in academic self-efficacy were reported by over 85%; in both these areas negative effects predominated. Self-reported symptoms and uncertainty about contagion were associated with non-compliance, negative mental health effects, and impaired academic self-efficacy. Students generally followed public health recommendations during strict closure of universities, but many reported considerable negative consequences related to mental health and academic self-efficacy. Digital interventions should be developed and evaluated to boost coping skills, build resilience and alleviate student suffering during the pandemic and future similar crises.

Bertills, K. (2022). Looking outside the box: Sweden, structured interview. In M. Veber, P. Gollub, S. Greiten, & T. Schkade (Eds.), Umgang mit Heterogenität und Inklusion – Chancen und Herausforderungen für die schulpraktische Professionalisierung. Julius Klinkhardt.

This chapter gives a Swedish perspective of how preservice teachers are trained in teacher education to deal with aspects of inclusion and heterogeneity in their future practice

*Bertuzzi, V., Semonella, M., Andersson, G., Manzoni, G. M., Castelnuovo, G., Molinari, E., & Pietrabissa, G. (2022). Study protocol for a randomized controlled trial evaluating the effectiveness of an internet-based self-help intervention to cope with psychological distress due to COVID-19 in the Italian general population: the RinasciMENTE project. *Trials*, 23, 801.*

This study aims to evaluate the feasibility and effectiveness of the RinasciMENTE program, an Internet-based self-help intervention based on cognitive behavioral therapy (CBT) principles and techniques in supporting individuals experiencing psychological impairments during the COVID-19 pandemic. A randomized controlled trial (RCT) design with random allocation at the level of individual will be conducted to compare the impact of the RinasciMENTE program with a waiting list control in improving the psychological functioning of the general population during the COVID-19 pandemic. A minimum sample of 128 participants experiencing mild/subthreshold levels of psychological symptoms during the COVID-19

pandemic will be recruited. After the initial screening, participants will be randomly assigned to either the experimental group or the control condition. The program will last 2 months, during which participants will receive 8 weekly CBT treatment modules. The impact of the RinasciMENTE program on selected primary and secondary psychological outcomes will be tested at the end of the intervention (2 months) and 6- and 12-month follow-ups. We expect people to show an increased level of psychological functioning and to acquire the skills and self-confidence necessary to deal with the psychological consequences of the COVID-19 outbreak and its related social isolation during and following the pandemic

Bertuzzi, V., Semonella, M., Castelnuovo, G., Andersson, G., & Pietrabissa, G. (2022). Synthesizing stakeholders perspectives on online psychological interventions to improve the mental health of the Italian population during the COVID-19 Pandemic: An online survey study. *International Journal of Environmental Research and Public Health*, 19, 7008.

The COVID-19 pandemic is expected to significantly increase the prevalence of mental health problems, thus raising the need for psychological support interventions around the world. Online psychological interventions have already been shown to be an effective solution to promote psychological treatments. Nevertheless, planning and developing an online intervention, involving possible stakeholders, might facilitate the dissemination of, willingness to use, and success of the future intervention. This study aims to explore and compare the experiences that Italians living in Italy and abroad had with available support services during the COVID-19 pandemic, their needs, and attitudes, as well as possible barriers to online psychological interventions. A sample of 1024 Italians (Female = 69.8%; mean age = 41.3; SD = 15.3) was recruited through social media platforms and personal contacts and they were asked to complete an online survey. Results showed that perceived psychological distress during the COVID-19 pandemic improved. In Europe, psychological support was delivered mainly in person (69.0%), while online interventions were primarily used in extra-European countries (57%). Then, only 44% of the total sample was interested in trying an online psychological intervention. Various advantages and disadvantages were defined by stakeholders: The main advantages were the reduction in geographical distances, economic reasons, and the reduction in the waiting list; The main disadvantages were problems with technology, low motivation of users, and privacy/safety reasons. These data made it possible to improve the knowledge regarding the views and attitudes that Italians have about online psychological interventions, and shed light on how to increase the uptake of digital health.

Beukes, E. W., Andersson, G., & Manchaiah, V. (2022). Long-term efficacy of audiologist-guided Internet-based cognitive behaviour therapy for tinnitus in the United States: A repeated-measures design. *Internet Interventions, 30*, 100583.

This study investigated the long-term outcomes 1-year after undertaking an Internet-based cognitive behavioural therapy (ICBT) for tinnitus distress in a US population. Secondary aims were to identify the effects on additional difficulties associate with tinnitus and any unwanted events related to ICBT for tinnitus.

A repeated-measures design with 4 time points was used. Participants previously undertaking two randomized ICBT efficacy trials for tinnitus in the US were invited to participate. Of the 200 invited, 132 (66 %) completed the 1-year follow-up questionnaire. The primary outcome was a change in tinnitus distress from baseline at one year post-intervention, as assessed by the Tinnitus Functional Index. Secondary assessment measures were included for anxiety, depression, insomnia, hearing disability, hyperacusis, tinnitus cognitions and health-related quality of life. Undertaking ICBT for tinnitus led to significant improvements 1-year post-intervention for tinnitus severity, with a large effect size ($d = 1.06$; CI: 0.80 to 1.32). Medium effects were found for anxiety ($d = 0.54$; CI: 0.29 to 0.79), depression ($d = 0.46$; CI: 0.21 to 0.70), insomnia ($d = 0.47$; CI: 0.22 to 0.72), and tinnitus cognitions ($d = 0.43$, CI: 0.18 to 0.68). Small effect sizes were found for hearing disability, hyperacusis and health-related quality of life. Adverse events related to the intervention were only reported by 1 participant. The benefits of audiologist-guided ICBT for tinnitus and tinnitus-related difficulties were maintained 1-year post-intervention with very few adverse events reported. Ways of disseminate evidence-based easily accessible interventions to the general population with bothersome tinnitus should be sought.

Beukes, E. W., Andersson, G., Fagelson, M., & Manchaiah, V. (2022). Internet-based audiologist-guided cognitive behavioral therapy for tinnitus: A randomized controlled trial. *Journal of Medical Internet Research, 24*, e27584.

Tinnitus is a symptom that can be very distressing owing to hearing sounds not related to any external sound source. Managing tinnitus is notoriously difficult, and access to evidence-based care is limited. Cognitive behavioral therapy (CBT) is a tinnitus management strategy with the most evidence of effectiveness but is rarely offered to those distressed by tinnitus. The provision of internet-based CBT for tinnitus overcomes accessibility barriers; however, it is not currently readily available in the United States. The aim of this study is to investigate the efficacy of internet-based CBT compared with that of weekly monitoring for the management of tinnitus in reducing tinnitus distress; reducing tinnitus-related

comorbidities, including tinnitus cognitions, insomnia, anxiety, and depression; and assessing the stability of the intervention effects 2 months after the intervention. A 2-arm randomized clinical trial comparing audiologist-guided internet-based CBT (n=79) to a weekly monitoring group (n=79) with a 2-month follow-up assessed the efficacy of internet-based CBT. Eligible participants included adults seeking help for tinnitus. Recruitment was conducted on the web using an open-access website. Participants were randomized via 1:1 allocation, but blinding was not possible. The study was undertaken by English or Spanish speakers on the web. The primary outcome was a change in tinnitus distress as measured using the Tinnitus Functional Index. Secondary outcome measures included anxiety, depression, insomnia, tinnitus cognition, hearing-related difficulties, and quality of life. Internet-based CBT led to a greater reduction in tinnitus distress (mean 36.57, SD 22) compared with that in weekly monitoring (mean 46.31, SD 20.63; effect size: Cohen $d=0.46$, 95% CI 0.14-0.77) using an intention-to-treat analysis. For the secondary outcomes, there was a greater reduction in negative tinnitus cognition and insomnia. The results remained stable over the 2-month follow-up period. No important adverse events were observed. Further, 16% (10/158) of participants withdrew, with low overall compliance rates for questionnaire completion of 72.3% (107/148) at T1, 61% (91/148) at T2, and 42% (62/148) at T3. This study is the first to evaluate and indicate the efficacy of audiologist-delivered internet-based CBT in reducing tinnitus distress in a US population. It was also the first study to offer internet-based CBT in Spanish to accommodate the large Hispanic population in the United States. The results have been encouraging, and further work is indicated in view of making such an intervention applicable to a wider population. Further work is required to improve compliance and attract more Spanish speakers.

Beukes, E. W., Chundu, S., Ratinaud, P., *Andersson, G.*, & Manchaiah, V. (2022). Experiential characteristics among individuals with tinnitus seeking online psychological interventions: A cluster analysis. *Brain Sciences*, *12*, 1221.

This study was designed to gain insights regarding patterns of social representations (values, ideas, beliefs) of tinnitus and their relation to demographic and clinical factors. A cross-sectional survey design was used including 399 adults seeking help and reporting interest in internet-based cognitive behavior therapy for tinnitus. Data were collected using a free association task and analysis used qualitative (content analysis) and quantitative (cluster analysis and chi-square analysis) using the Iramuteq software. The social representations identified the negative impact of tinnitus and included the way it sounded (descriptions of the way tinnitus sounds (18%), annoyance (13.5%), and persistence (8%)). Four clusters were identified representing four levels of tinnitus severity, namely debilitating tinnitus (24%), distressing tinnitus (10%),

annoying tinnitus (46%), and accepting tinnitus (20%). Cluster identity was associated with demographic and clinical variables. The identified clusters represented tinnitus severity experience in four stages, ranging from debilitating tinnitus to acceptance of tinnitus. These findings are important for clinical practice where tinnitus descriptions can indicate the stage of the tinnitus experience and which intervention pathway may be most appropriate.

Beukes, E. W., Maidment, D. W., Andersson, G., Fagleson, M. A., Heffernan, E., & Manchaiah, V. (2022). Development and psychometric validation of a questionnaire assessing the impact of tinnitus on significant others. *Journal of Communication Disorders, 95*, 106159.

Despite evidence showing that tinnitus can have a detrimental impact on significant others (SOs), no standardized self-reported measure is currently available that specifically assesses the presence of third-party disability for tinnitus. The aim of this study was to develop and assess the psychometric properties of a newly developed self-reported measure for SOs of tinnitus and assess how scores could be meaningfully interpreted. The research consisted of two phases. During Phase I, the Consequences of Tinnitus on Significant Others Questionnaire (CTSOQ) was developed using the The COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN) guidance. Phase II included the assessment of psychometric properties of the CTSOQ including the construct validity, internal consistency, interpretability, and responsiveness. Pairs of 194 individuals with tinnitus and their SOs completed a series of online questionnaires. SOs completed the CTSOQ measure while individuals with tinnitus completed measures related to tinnitus distress, anxiety, depression, insomnia, and quality of life. A 25 item CTSOQ was developed using a formative model. The questionnaire validation process indicated good psychometric properties with an internal consistency of 0.93 and inter-item correlation of 0.60. Support was found for the construct and discriminative validity of the measure. Floor and ceiling effects were negligible. Scores can be meaningfully interpreted to indicate mild, significant, or severe effect of tinnitus on SOs. The questionnaire was also found to be responsive to treatment-related changes. The CTSOQ was found to have sufficient measurement properties suggesting that it is a suitable measure of third-party disability for SOs of individuals with tinnitus. Further research should be initiated to measure face validity and what scores reflect clinically meaningful change.

Beukes, E. W., Manchaiah, V., Andersson, G., & Maidment, D. W. (2022). Application of the behavior change wheel within the context of internet-based cognitive behavioral therapy for tinnitus management. *American Journal of Audiology, 31*, 433-444.

Although experiencing tinnitus can lead to many difficulties, these can be reduced by using techniques derived from cognitive behavioral therapy. Internet-based cognitive behavioral therapy (ICBT) has been developed to provide an accessible intervention. The aim of this study was to describe how ICBT can facilitate tinnitus management by identifying the active ingredients of the intervention from the perspective of health behavior change. The ICBT intervention was evaluated using the Behavior Change Wheel in eight steps across the following three stages: (1) understanding the behavior, (2) identifying intervention options, and (3) identifying content and implementation options. Target behaviors identified to reduce tinnitus distress, as well as additional problems associated with tinnitus, included goal setting, an increased understanding of tinnitus, encouraging deep breathing and progressive muscle relaxation, identifying and restructuring unhelpful thoughts, engaging in positive imagery, and reducing avoidance behaviors. ICBT provided the required components for individuals to be physically and psychologically capable of adapting to tinnitus, providing social and environmental opportunities to manage hearing loss through practice and training, and facilitated automatic and reflective motivation. Understanding ICBT in the context of the Behavior Change Wheel has helped identify how its effectiveness can be improved and can be used for future tinnitus intervention planning.

Beukes, E. W., Manchaiah, V., Ulep, A. J., & Andersson, G. (2022). The effects of tinnitus on significant others. *Journal of Clinical Medicine, 11*, 1393.

Although chronic conditions could cause third-party disability for significant others (SOs), little is known regarding the impact of tinnitus on SO. This study aimed to identify the effects of tinnitus on SOs. SOs of individuals with tinnitus were invited to participate in this study. SOs completed three open-ended questions focusing on the effects of tinnitus. Individuals with tinnitus completed the Tinnitus Functional Index as a self-reported measure of tinnitus severity. A mixed-methods analysis approach was undertaken. Of the 156 SOs responding, 127 (85%) reported that tinnitus impacted them. The impact surrounded sound adjustments, activity limitations, additional demands, emotional toll, and helplessness. Tinnitus negatively affected the relationship for 92 (58%) due to communication frustrations and growing apart. When asked if tinnitus had any positive effects, 64 (47%) SOs reported positive lifestyle adaptations, personal

development, health awareness, and a changed outlook. There was no association between the level of tinnitus severity and SOs reporting that tinnitus had an impact on them individually, their relationships, or those reporting positive experiences. The study highlighted the third-party disability many SOs of individuals with tinnitus experience. The results indicate that SOs may benefit from a shared intervention to help mitigate the negative effects through a better understanding of tinnitus.

Beukes, E. W., Munoz, M. F., *Andersson, G.*, & Manchaiah, V. (2022). Internet-based cognitive behavioral therapy for tinnitus in Spanish: A global feasibility trial. *International Journal of Audiology*, 61, 632-641.

Internet-based cognitive behavioural therapy (ICBT) for tinnitus is an evidence-based intervention, but only available in a few languages. To increase accessibility, ICBT was translated into Spanish. This study's objective was to determine the feasibility of ICBT for Spanish speakers. A single-group pre-test post-test design was used. Compliance, engagement, acceptance and outcome feasibility were measured. Forty-six Spanish speakers with tinnitus were screened. There were 32 participants meeting the eligibility criteria, with a mean age of 47 (± 11) years. Of these 91% were Hispanic or Latino with 66% living in Spain and 34% living in South America. Outcome feasibility was established, as a large pre- and post-test within-group effect size of $d = 0.90$ was found for tinnitus severity. Large pre- and post-test effect sizes were also present for the secondary outcomes of anxiety and depression with a medium effect for insomnia, health-related quality of life, and tinnitus cognitions. Intervention engagement and compliance were not optimal although no participants withdrew. Intervention acceptance rates indicated scope for improvement. ICBT for Spanish communities appears to be feasible. A randomised controlled trial is required to further investigate the effects and identify ways of improving engagement and attracting Spanish speakers from different countries.

Biliunaite, I. (2022). Care for the caregiver: Internet intervention for informal caregivers in Lithuania. *Linköping Studies in Arts and Science 831, Linköping Studies in Behavioural Science 239*, Linköping University.

Informal caregivers are individuals who provide care for significant others in need of support due to frailty or illness. Being able to support a family member can be a very rewarding but at the same time a demanding task. Consequently, informal caregivers are known to experience not only positive but also negative psychological health outcomes and should be offered appropriate support. The

main goal of this thesis was to evaluate if Internet-based Cognitive Behavioural Therapy (ICBT) can be suited to provide Lithuanian informal caregivers with psychological support. In addition, a secondary aim was to collect information regarding Lithuanian informal caregiver characteristics, their experienced burden and support needs. The results showed that Lithuanian informal caregivers experience unmet support needs and a high caregiver burden. The findings also show that ICBT can be an effective and acceptable support option for Lithuanian informal caregivers in reducing their burden, depression, anxiety, stress and increasing the perceived quality of life. In conclusion, ICBT should be considered a promising psychological support option for Lithuanian informal caregivers. Further research is needed to evaluate the suitability of ICBT in regular care.

Biliunaite, I., Kazlauskas, E., Sanderman, R., & Andersson, G. (2022). Informal caregiver support needs and burden: a survey in Lithuania. BMJ Open, 12, e054607.

A demand for informal care exists worldwide. Lithuania presents an interesting case example where the need for the informal care is increasing, but relatively little research has been conducted documenting caregivers' experiences and needs. The main objective of this study was to investigate Lithuanian informal caregiver characteristics, support needs and burden. In addition, the impact of the COVID-19 on the caregiver's and care receiver's well-being was investigated. The study was conducted online between May and September 2020. Informal caregivers and individuals with informal caregiving experiences were invited to participate in the survey. The survey questionnaire comprised 38 multiple-choice items including participant demographic characteristics, availability of the support, support needs, well-being and the impact of the COVID-19 pandemic. In addition, caregiver burden was assessed with the 24-item Caregiver Burden Inventory (CBI). A total of 226 individuals completed the survey. Most of the participants were women (87.6%). Almost half of the participants (48.7%) were not receiving any support, and a total of 73.9% expressed a need to receive more professional support. Participants were found to experience high burden on the CBI ($M=50.21$, $SD=15.63$). Women were found to be significantly more burdened than men ($p=0.011$). Even though many participants experienced psychological problems (55.8%), only 2.2% were receiving any psychological support. Finally, majority of the participants did not experience any changes in their own (63.7%) or the well-being of their care receiver (68.1%) due to the COVID-19 pandemic. Most of the participants were identified as intensive caregivers experiencing a high burden. A majority did not experience changes in their well-being due to COVID-19. We propose several recommendations for increasing accessibility and availability of support for informal caregivers in Lithuania based on the study findings.

Blomberg, S. (2022). Beware of non-supportive leaders: Moderating effects of supportive leadership on the risks and effects of workplace bullying. Linköping Studies in Arts and Science 845, Linköping Studies in Behavioural Science 247, Linköping University.

The aim was to investigate how supportive leadership affects workplace bullying—both in terms of risk factors that may lead to bullying but also in terms of the effects of bullying. The thesis includes three survey studies based on different Swedish cohorts and using different research design in terms of the number of data collection waves and timeframes. Based on the association between workplace bullying and poor health—and drawing on the social learning theory, the theory of social information processing, the social identity theory, and the self-categorisation theory—a circular and multilevel interaction model was created. It is presented together with six hypotheses and an open research question. The summarised and combined results can be divided into two major parts concerning (a) two studied risk factors (role ambiguity and individual poor health), and (b) the investigated moderator (supportive leadership). The results showed that role ambiguity is a long term predictor of being exposed to bullying behaviours at work, and that a hostile work climate is a mediator for that association. The results also showed that poor general health is a predictor of future bullying exposure. The results additionally showed that a supportive leadership fully moderated the effects on exposure to bullying behaviours by (a) ambiguous roles, mediated through a hostile work climate, and (b) poor general health. The result furthermore showed that a supportive leadership have an effect on the association between exposure to bullying behaviours and health. The effect was in terms of a moderated moderation also including co-worker support. Finally, the results also pointed to direct positive effects of both supportive leadership and co-worker support on individual health as well as to a direct mitigating effect of a supportive leadership on workplace bullying. Altogether, the thesis points to very important moderating effects of a supportive leadership and especially the fundamentally destructive effects in association with nonsupportive leadership.

Blomberg, S., & Rosander, M. (2022). When do poor health increase the risk of subsequent workplace bullying? The dangers of low or absent leadership support. European Journal of Work and Organizational Psychology, 31, 485–495.

Studies have shown that mental health problems may lead to workplace bullying, a so-called reversed effect. The current study investigated if this effect can be found also for poor health in general. When the reverse effect occurs is unclear. Supervisor support has been shown to moderate different antecedents and

consequences associated with bullying. It was hypothesized that poor health would be a risk factor for bullying and that a supportive leadership style would moderate this risk. Using a two-wave design with 958 participants, logistic regression was used to test the association between health and workplace bullying. A moderation analysis tested supportive leadership style as a moderator. The study resulted in two novel findings: (a) a supportive leadership style has a strong mitigating effect on bullying behaviours, both directly and as a buffer; (b) poor health in general, including poor physical health, about doubles the risk of becoming a victim of workplace bullying. Together, these two findings make a boundary condition for the reverse effect clearer. The reversed effect only seems to be present when the level of leadership support is low or absent.

Boettcher, J., Carlbring, P., Kottorp, A., *Andersson, G.*, & Rozentel, A. (2022). Der Negative Effects Questionnaire (NEQ). In M. Linden & B. Strauß (Eds.), *Erfassung von psychotherapie-nebenwirkungen* (pp. 159-168): MWV Medizinisch Wissenschaftliche Verlagsgesellschaft.

Description of the Negative Effects Questionnaire and the research behind.

Cawthorne, T., *Käll, A.*, Bennett, S., *Andersson, G.*, & Shafran, R. (2022). The development of cognitive behavioural therapy (CBT) for chronic loneliness in children and young people: protocol for a single-case experimental design. *Plos One*, *17*, e0278746.

Loneliness is a significant problem for young people and is associated with a range of physical and mental health difficulties. Meta-analyses have identified that interventions aimed at young people who report loneliness as their primary problem are lacking within the literature. In adults, the most effective interventions for loneliness are those which target the underlying maladaptive social cognitions. Therefore, we have developed a modular Cognitive Behavioural Therapy (CBT) intervention for children and young people. The aim of this study is to conduct a multiple baseline single-case experimental design (SCED) to assess the efficacy, feasibility and acceptability of this intervention. In total 6-8 11-18-year-olds and their families will be recruited. The design consists of AB+ post-intervention, where A is the baseline phase, B is the intervention phase and then a post-intervention phase. Participants will complete a baseline assessment, before being randomised to one of four different baseline lengths (12 days, 19 days, 26 days or 33 days). Participants will then complete an average of 12 sessions of CBT, with the aim being to reduce their feelings of loneliness. Participants will then complete a 12-day post-intervention phase. Participant loneliness will be repeatedly assessed throughout the three phases of the intervention using the Three-item Loneliness Scale, which will be the primary

outcome. Secondary outcomes will be reliable and clinically meaningful change on the UCLA Loneliness Scale, Revised Child Anxiety and Depression Scale (RCADS) and Strengths and Difficulties Questionnaire (SDQ). Feasibility and participant satisfaction will also be assessed and reported.

Chan, W. S., Fitzsimmons-Craft, E. E., Smith, A. C., Firebaugh, M., Fowler, L. A., DePietro, B., *Topooco, N.*, Wilfley, D. E., Taylor, C. B., & Jacobson, N. C. (2022). The challenges in designing a prevention chatbot for eating disorders: Observational study. *JMIR Formative Research*, 6, e28003.

Chatbots have the potential to provide cost-effective mental health prevention programs at scale and increase interactivity, ease of use, and accessibility of intervention programs. The development of chatbot prevention for eating disorders (EDs) is still in its infancy. Our aim is to present examples of and solutions to challenges in designing and refining a rule-based prevention chatbot program for EDs, targeted at adult women at risk for developing an ED. Participants were 2409 individuals who at least began to use an EDs prevention chatbot in response to social media advertising. Over 6 months, the research team reviewed up to 52,129 comments from these users to identify inappropriate responses that negatively impacted users' experience and technical glitches. Problems identified by reviewers were then presented to the entire research team, who then generated possible solutions and implemented new responses. The most common problem with the chatbot was a general limitation in understanding and responding appropriately to unanticipated user responses. We developed several workarounds to limit these problems while retaining some interactivity. Rule-based chatbots have the potential to reach large populations at low cost but are limited in understanding and responding appropriately to unanticipated user responses. They can be most effective in providing information and simple conversations. Workarounds can reduce conversation errors.

Dahlin, M., Johansson, A., Romare, H., Carlbring, P., & *Andersson, G.* (2022). Worry-specific versus self-tailored internet-based treatments for generalized anxiety disorder, with scheduled support or support on demand: A pilot factorial design trial. *Internet Interventions*, 28, 100531.

Studies suggest that internet-delivered cognitive behaviour therapy (ICBT) can be effective when treating generalized anxiety disorder (GAD). This pilot factorial design study examined the effects of two types of ICBT (worry-specific and self-tailored treatment), and two support types (scheduled weekly support and support on demand), on measures of worry, anxiety, and depressive

symptoms. Participants (N = 85) were randomized into four treatment groups. Post-treatment measures were completed by 76.5% after eight weeks (n = 65). Intention to treat analysis showed significant improvements, with moderate to large within-group effects on the primary outcome measure, Penn State Worry Questionnaire (Cohen's $d = 0.77-1.43$). Minor to large effects on the secondary measures were found in all groups (Cohen's $d = 0.13-1.66$). No significant differences in outcome measures were found between the groups. Receiving scheduled support and self-tailored treatment was rated as more positive than receiving support on demand and the worry-specific program. A limitation is the low number of participants. The pilot results suggest that GAD can be treated with both worry-specific and self-tailored treatments, and that ICBT can be supported both with scheduled and support on demand.

Dumarkaite, A., Truskauskaite-Kuneviciene, I., Andersson, G., & Kazlauskas, E. (2022). The effects of online mindfulness-based intervention on posttraumatic stress disorder and complex posttraumatic stress disorder symptoms: A randomized controlled trial with 3-month follow-up. *Frontiers in Psychiatry, 13*, 799259.

Mindfulness-based interventions have recently been shown to be a promising option for treating posttraumatic stress. The current study aimed to investigate the effects of an online mindfulness-based intervention on ICD-11 posttraumatic stress disorder (PTSD) and complex PTSD (CPTSD) symptoms at a 3-month follow-up. An RCT design with three measurement points (pre-intervention, post-intervention, and 3-month follow-up) was used to investigate the effects of an 8-week online mindfulness intervention. In total, 53 traumatized young adults ($M_{age} = 23.21$, $SD_{age} = 2.81$; 84.9% female) participated in the study: 17 in the intervention group and 36 in the waiting list control group. Intervention group and waiting list control group comparison revealed that the intervention was effective for reducing CPTSD disturbances in self-organization symptoms ($d = -0.84 [-1.44; -0.24]$), specifically, negative self-concept ($d = -0.66 [-1.25; -0.07]$) and disturbances in relationships ($d = -0.87 [-1.47; -0.27]$), at 3-month follow-up. There were no between-group effects for PTSD symptoms from pre-test to follow-up. This is one of the first RCT studies to report follow-up effects of an online mindfulness-based intervention for ICD-11 PTSD or CPTSD symptoms. Our study yielded that the effects of mindfulness-based internet intervention on CPTSD symptoms tend to retain over time.

Ekberg, M., Andin, J., Stenfelt, S., & Dahlström, Ö. (2022). Effects of mild-to-moderate sensorineural hearing loss and signal amplification on vocal emotion recognition in middle-aged-older individuals. *PloS One*, *17*, e0261354.

Previous research has shown deficits in vocal emotion recognition in sub-populations of individuals with hearing loss, making this a high priority research topic. However, previous research has only examined vocal emotion recognition using verbal material, in which emotions are expressed through emotional prosody. There is evidence that older individuals with hearing loss suffer from deficits in general prosody recognition, not specific to emotional prosody. No study has examined the recognition of non-verbal vocalization, which constitutes another important source for the vocal communication of emotions. It might be the case that individuals with hearing loss have specific difficulties in recognizing emotions expressed through prosody in speech, but not non-verbal vocalizations. We aim to examine whether vocal emotion recognition difficulties in middle-aged to older individuals with sensorineural mild-moderate hearing loss are better explained by deficits in vocal emotion recognition specifically, or deficits in prosody recognition generally by including both sentences and non-verbal expressions. Furthermore some of the studies which have concluded that individuals with mild-moderate hearing loss have deficits in vocal emotion recognition ability have also found that the use of hearing aids does not improve recognition accuracy in this group. We aim to examine the effects of linear amplification and audibility on the recognition of different emotions expressed both verbally and non-verbally. Besides examining accuracy for different emotions we will also look at patterns of confusion (which specific emotions are mistaken for other specific emotion and at which rates) during both amplified and nonamplified listening, and we will analyze all material acoustically and relate the acoustic content to performance. Together these analyses will provide clues to effects of amplification on the perception of different emotions. For these purposes, a total of 70 middle-aged and older individuals, half with mild-moderate hearing loss and half with normal hearing will perform a computerized forced-choice vocal emotion recognition task with and without amplification.

Ekeblad, A., Dahlman, M., Pio, M., Malmquist, A., & Falkenström, F. (2022). "What shall we focus on?" – A thematic analysis of what characterizes cognitive-behavior therapy sessions with high or low quality of working alliance. *Psychotherapy Research*, *32*, 1103-1015.

Several studies have shown that the quality of the working alliance predicts symptomatic improvement session-by-session, including in cognitive-behavioral therapy (CBT). We wanted to explore what characterizes CBT sessions with high

and low alliances further using qualitative analysis. Ten CBT-sessions were selected from eight patients' therapies in a larger research project on psychotherapy for patients with major depression. Five sessions were chosen from high- and five from low-alliance sessions, based on therapist- and patient-reported Working Alliance Inventory scores. Transcripts of these sessions were analyzed using thematic analysis. The analysis yielded four themes, each structured into two sub-themes: Therapist style, Person in focus, Content focus, and Therapeutic direction. In contrast to low-alliance sessions, high-alliance sessions were characterized by a more exploring as opposed to expert therapist style; a focus on the patient's thoughts, feelings, and behavior, rather than a diffuse focus or a focus on other people's actions/external events; and a sense of moving forward rather than stagnation. Our qualitative analysis showed theoretically and clinically meaningful processes in CBT sessions of high- vs low working alliance. This method is a useful complement to quantitative within-patient analyses, to expand on the meaning of quantitative findings.

Erlandsson, A., Nilsson, A., Ali, P. A., & Västfjäll, D. (2022). Spontaneous charitable donations in Sweden before and after COVID: A natural experiment. Journal of Philanthropy and Marketing, 27, e1755.

Did the outbreak of COVID-19 influence spontaneous donation behavior? To investigate this, we conducted a natural experiment on real donation data. We analyzed the absolute amount, and the proportion of total payments, donated by individuals to charitable organizations via Swish—a widely used mobile online payment application through which most Swedes prefer to make their donations to charity—each day of 2019 and 2020. Spontaneous charitable donations were operationalized as Swish-payments to numbers starting with 90, as this number is a nationally acknowledged quality control label that is provided to all fundraising operations that are monitored by the Swedish Fundraising Control. The results show that the Swish-donations fluctuated substantially depending on season (less donations in January–February and during the summer months, and more donations in April–May and during the last months of the year) and specific events (peaks in Swish-donations often coincided with televised charity fundraising galas). Interrupted time-series analyses revealed that spontaneous donations were overall unaffected by the pandemic outbreak.

Fischer, V. J., Andersson, G., Billieux, J., & Vögele, C. (2022). The relationship between emotion regulation and sexual function and satisfaction: a scoping review. *Sexual Medicine Reviews, 10*, 195-208.

Sexual problems are characterized by difficulties in the ability to respond sexually or to obtain sexual pleasure. Their etiology is assumed to be multifactorial, demanding a biopsychosocial treatment approach. Positive sexual experiences involve the dynamic interplay between cognitive, emotional, and motivational factors. Difficulties in emotion identification or impairment in emotion regulation may thus play a pivotal role in the development and maintenance of sexual problems. The aim was to conduct a scoping review of the literature on the effects of emotion regulation on sexual function and satisfaction. We conducted a scoping review using Cinahl, Lilacs, Scielo, Scopus, PsycInfo and Pubmed electronic databases using search terms related to emotion regulation and sexual function and satisfaction. 27 articles met the inclusion criteria and were further analyzed. Overall, emotion regulation difficulties were associated with poorer sexual health outcomes, difficulties in the sexual response cycle and overall lower sexual satisfaction. Laboratory studies and intervention trials found positive effects of promoting emotion regulation change on sexual function and satisfaction. Despite the methodological diversity of studies, it can be concluded from this review that difficulties in emotion regulation are related to sexual difficulties and sexual dissatisfaction. Future research should consider emotion regulation-focused interventions to mitigate sexual health problems.

Falkenström, F., & Holmqvist, R. (2022). Therapist in-session feelings predict change in depressive symptoms in interpersonal and brief relational psychotherapy. Psychotherapy Research, 32, 571-584.

Brief Relational Therapy (BRT) includes the idea that the therapists use their in-session feelings in meta-communications about the therapy relationship to facilitate resolution of alliance ruptures. The current study aimed to explore the effect of therapist feelings on patient depressive symptoms in BRT compared to Interpersonal Psychotherapy (IPT). The effects of therapist feelings were studied in 40 patients randomized to 16 sessions of IPT or BRT, using the Feeling Word Checklist—24, the Patient Health Questionnaire—9 and the Working Alliance Inventory. Data was analyzed using dynamic structural equation modeling. Negative therapist feelings predicted increase and positive feelings decrease in next-session PHQ-9 via the alliance and the patients' engaged feelings, in both treatments. The direct effect of negative therapist feelings on PHQ-9 differed significantly between BRT and IPT, with more negative feelings predicting a decrease in PHQ-9 in BRT but not in IPT. Negative therapist feelings may cause increase/less decrease and positive feelings more decrease in depressive

symptoms via disruptions in the alliance. In BRT, if the alliance is unaffected by negative therapist feelings, the patient's depressive symptoms may improve. Findings need replication in a larger sample.

Falkenström, F., Solomonov, N., & Rubel, J. A. (2022). How to model and interpret cross-lagged effects in psychotherapy mechanisms of change research: A comparison of multilevel and structural equation models. Journal of Consulting and Clinical Psychology, 90, 446-458.

Modeling cross-lagged effects in psychotherapy mechanisms of change studies is complex and requires careful attention to model selection and interpretation. However, there is a lack of field-specific guidelines. We aimed to (a) describe the estimation and interpretation of cross lagged effects using multilevel models (MLM) and random-intercept cross lagged panel model (RI-CLPM); (b) compare these models' performance and risk of bias using simulations and an applied research example to formulate recommendations for practice. Method: Part 1 is a tutorial focused on introducing/describing dynamic effects in the form of autoregression and bidirectionality. In Part 2, we compare the estimation of cross-lagged effects in RI-CLPM, which takes dynamic effects into account, with three commonly used MLMs that cannot accommodate dynamics. In Part 3, we describe a Monte Carlo simulation study testing model performance of RI-CLPM and MLM under realistic conditions for psychotherapy mechanisms of change studies. Results: Our findings suggested that all three MLMs resulted in severely biased estimates of cross-lagged effects when dynamic effects were present in the data, with some experimental conditions generating statistically significant estimates in the wrong direction. MLMs performed comparably well only in conditions which are conceptually unrealistic for psychotherapy mechanisms of change research (i.e., no inertia in variables and no bidirectional effects). Discussion: Based on conceptual fit and our simulation results, we strongly recommend using fully dynamic structural equation modeling models, such as the RI-CLPM, rather than static, unidirectional regression models (e.g., MLM) to study cross-lagged effects in mechanisms of change research.

Flores A., Cole J. C., Dickert S., Eom K., Jiga-Boy G. M., Kogut T., Loria R., Mayorga M., Pedersen E. J., Pereira B., Rubaltelli E., Sherman D. K., Slovic P., *Västfjäll D.*, Van Boven L. (2022). Politicians polarize and experts depolarize public support for COVID-19 management policies across countries. *Proceedings of the National Academy of Sciences of the USA*, 119, e2117543119.

Political polarization impeded public support for policies to reduce the spread of COVID-19, much as polarization hinders responses to other contemporary challenges. Unlike previous theory and research that focused on the United States, the present research examined the effects of political elite cues and affective polarization on support for policies to manage the COVID-19 pandemic in seven countries (n = 12,955): Brazil, Israel, Italy, South Korea, Sweden, the United Kingdom, and the United States. Across countries, cues from political elites polarized public attitudes toward COVID-19 policies. Liberal and conservative respondents supported policies proposed by ingroup politicians and parties more than the same policies from outgroup politicians and parties. Respondents disliked, distrusted, and felt cold toward outgroup political elites, whereas they liked, trusted, and felt warm toward both ingroup political elites and nonpartisan experts. This affective polarization was correlated with policy support. These findings imply that policies from bipartisan coalitions and nonpartisan experts would be less polarizing, enjoying broader public support. Indeed, across countries, policies from bipartisan coalitions and experts were more widely supported. A follow-up experiment replicated these findings among US respondents considering international vaccine distribution policies. The polarizing effects of partisan elites and affective polarization emerged across nations that vary in cultures, ideologies, and political systems. Contrary to some propositions, the United States was not exceptionally polarized. Rather, these results suggest that polarizing processes emerged simply from categorizing people into political ingroups and outgroups. Political elites drive polarization globally, but nonpartisan experts can help resolve the conflicts that arise from it.

Forslund Frykedal, K., *Rosander, M.*, Barimani, M., & Berlin, A. (2022). Cooperative learning in parental education groups. Child healthcare nurses' view on the work as leaders and on the groups. *Children's Health Care*, 51, 20–36.

New parents are offered parental education groups as a way to support their transition to parenthood. Interactive approaches in these groups are of importance, but studies have reported a lack of activities that support interaction. Cooperative learning is a structured method when working with groups and based on five elements essential to maximizing the cooperative

potential of groups. The aim was to investigate the leadership skills of child healthcare nurses as leaders for parental education groups, their ideas about creating conditions for well-functioning groups, and what is required to achieve this. The results were analyzed and discussed using social interdependence theory as a framework and especially the five elements of cooperative learning. Further, the study used a qualitative descriptive design, and eight qualitative interviews were analyzed deductively using thematic analysis. The results showed that in their narratives the nurses display vocational knowledge and describe conditions important for their groups from a cooperative learning perspective. Nevertheless, the results indicate that the nurses had difficulty explicitly instructing parents to use their personal experiences and social skills to get groups to function effectively. Knowledge developed in the workplaces from the experience of leading groups is mostly implicit, and formal knowledge and awareness of leadership is necessary for development of the role.

Garcia, D., Björk, E., & Kazemitabar, M. (2022). The A(ffect) B(ehavior) C(ognition) D(ecision) of parasocial relationships: A pilot study on the psychometric properties of the multidimensional measure of parasocial relationships (MMPR). Heliyon, 8, e10779.

The aim of this pilot study was to preliminary test the psychometric properties of the Multidimensional Measure of Parasocial Relationships (MMPR), a self-report that assess people's attitude (*affect, cognition, and behavior*) towards social media figures and to what extent people perceive that media figures influence their daily life *decisions* (e.g., consumption, exercise, nutrition). In short, the MMPR measures how and to what extent people are committed to such one-sided relationships and interactions through social media platforms. Besides factor structural analyses (four different models) and internal consistency, we also tested the MMPR's concurrent validity by investigating if, as hypothesized, the association between commitment to parasocial relationships and self-esteem is mediated by its positive association to social comparison. Participants ($N = 259$) answered to the MMPR, the Iowa-Netherlands Comparison Orientation Measure, and the Rosenberg Self-Esteem Scale. As expected, the MMPR loaded in four dimensions and had good internal consistency (e.g., *Cronbach's Alphas* were between .66-.75 for the four dimensions and .85 for the whole measure). The bifactor model with correlated factors had the best fit indexes ($CFI = .95$, $RMSEA = .07$). Moreover, the direct effect of MMPR was positive on social comparison ($\beta = .18$, $p < .01$), the direct effect of social comparison on self-esteem was negative ($\beta = -.51$, $p < .001$), and the indirect effect of MMPR on self-esteem was negative ($\beta = -.09$, $p < .01$). In sum, our results suggest that parasocial relationships through social media platforms consist of four necessary and correlated dimensions (A: Affective; B: Behavioral; C: Cognitive; and D: Decisional). Moreover, the MMPR successfully assessed that high level of

commitment with parasocial relationships are positively associated with the tendency to compare oneself to others, which in turn leads to low levels of self-esteem. Hence, the MMPR has sound psychometric properties and is a good candidate for further analyses.

Garcia, D., Kazemitabar, M., Stoyanov, D., & Cloninger, C. R. (2022). Differences in subjective well-being among individuals with distinct joint personality (temperament-character) in a Bulgarian sample. PeerJ, 10, e13956.

Personality is the major predictor of people's subjective well-being (i.e., positive affect, negative affect, and life satisfaction). Recent research in countries with high-income and strong self-transcendent values shows that well-being depends on multidimensional configurations of temperament and character traits (i.e., Joint Personality Networks) that regulate the way people learn to adapt their habits to be in accord with their goals and values, rather than individual traits. To evaluate the prevalence and the associations of different Joint Personality (temperament-character) Networks with well-being in a low-income country with weak self-transcendent values, we tested their association in Bulgarian adults, a population known to have strong secular-rationalist values but weak self-transcendent values. The sample consisted of 443 individuals from Bulgaria (68.70% females) with a mean age of 34 years ($SD = 15.05$). Participants self-reported personality (Temperament and Character Inventory), affect (Positive Affect Negative Affect Schedule), and life satisfaction (Satisfaction with Life Scale). The personality scores were used for profiling through latent profile analysis and latent class analysis based on temperament configurations (i.e., Temperament Profiles) of high/low scores of Novelty Seeking (N/n), Harm Avoidance (H/h), Reward Dependence (R/r), and Persistence (P/s); and character configurations (i.e., Character Profiles) of high/low scores of Self-Directedness (S/s), Cooperativeness (C/c), and Self-Transcendence (T/t). We found two Temperament Profiles and two Character Profiles that clustered into two distinctive Joint Personality Networks. All individuals in Joint Personality Network 1 had a Reliable (nhRP) Temperament Profile in combination with an Organized (SCt) Character Profile (i.e., a stable temperament and a healthy character configuration). About 71.9% in Joint Personality Network 2 had an Apathetic (sct) Character Profile in combination with Methodical (nHrp) or Reliable (nhRP) Temperament Profiles, while 28.1% had a Methodical (nHrp) Temperament Profile in combination with an Organized Character Profile (SCt). Few people with high self-expressive values (i.e., high in all three character traits) were found. Individuals with a Joint Personality Network 1 with strong secular-rationalist values reported higher levels of positive affect and life satisfaction ($p < .001$), while individuals with a Joint Personality Network 2 reported higher levels of negative affect ($p < .001$). Although a stable temperament and a healthy

character were separately important for well-being, it was clear that it was the interaction between such temperament and character configuration what yielded greater levels of subjective well-being. Nevertheless, future research needs to investigate this interaction further to evaluate other cultures with variable configurations of personality traits and values.

Gasslander, N., Andersson, G., Dahlqvist, F., Brandelius, L., Pelling, L., Hamrin, L., Gordh, T., & Buhrman, M. (2022). Tailored internet-based cognitive behavioral therapy for individuals with chronic pain and comorbid psychological distress: a randomized controlled trial. *Cognitive Behaviour Therapy, 51*, 408-434.

Comorbid psychological problems are commonly related to chronic pain but addressing heterogeneous comorbidities in traditional settings is often difficult. Delivering individually tailored treatment using the internet could be a viable alternative. The present study investigates whether a guided, individually tailored and internet-delivered cognitive behavioral therapy (ICBT) could improve mood and reduce disability in individuals suffering from chronic pain and comorbid psychological distress. Participants were recruited from a pain clinic and randomized to either ICBT or waiting list. The participants ($n = 187$) individually tailored treatments included 6-13 modules targeting different types of psychological distress. Modules were designed to be completed weekly, and feedback was provided by clinicians. Participants completed an average of 5.1 (49.7%) modules, with 22.9% completing all assigned modules. Intention-to-treat analyses showed significantly larger improvements in depression, disability, pain acceptance, catastrophizing, and quality of life in the ICBT-group compared to the control group. Between-group effect sizes were very small or small at post for the primary outcomes depression ($d = 0.18$) and pain interference ($d = 0.22$). Other effect sizes ranged from very small to small, with the largest effect being improvements in pain acceptance ($d = 0.30$). All significant changes were stable at 12-month follow up.

Georén, L., Jansson-Fröjmark, M., Nordenstam, L., Andersson, G., & Choque Olsson, N. (2022). Internet-delivered cognitive behavioral therapy for insomnia in youth with autism spectrum disorder: A pilot study. *Internet Interventions, 29*, 100548.

Adolescents with ASD often suffer from sleep disorders affecting their development and quality of life. Research concerning psychological treatment of insomnia in this population is scarce. The objective of this pilot study was to examine the feasibility of internet-delivered CBT for insomnia (iCBT-I) and the participants' experiences after completing the treatment. Both quantitative and

qualitative methods were used. Six adolescents with ASD and insomnia, aged 13 to 17, participated in the study. The results of the qualitative investigation showed general satisfaction with the iCBT-I. The participants experienced both better sleep and insights into their sleep patterns. Thematic analysis revealed five themes: experience of the structure of the treatment, treatment content, experienced outcomes, experienced difficulties, and suggested improvements. The results indicate the need for additional support for some participants and suggest distinct recommendations for further studies. The quantitative investigation showed large reductions in insomnia symptoms indicating the feasibility of the treatment in this population. The findings suggest promising results, but more studies are needed to define the efficacy of iCBT-I for adolescents with ASD.

Grieve, P., Egan, S. J., Andersson, G., Carlbring, P., Shafran, R., & Wade, T. D. (2022). The impact of internet-based cognitive behaviour therapy for perfectionism on different measures of perfectionism: a randomised controlled trial. *Cognitive Behaviour Therapy*, *51*, 130-142.

The current study investigated the impact of an 8-module internet-based cognitive behaviour therapy for perfectionism (ICBT-P) across a variety of perfectionism subscales. Undergraduate students who identified as having a problem with perfectionism were randomized to receive the intervention ($n = 41$), and were free to choose the number of treatment modules they completed over a 4-week period, while the control group ($N = 48$) received access to treatment 8 weeks post-randomisation. Secondary measures included depression, anxiety, stress, body image and self-compassion. Assessments occurred at baseline, 2-, 4- and 8-week time points. A mean of 3.12 ($SD = 2.67$) modules were completed; 7 participants (17%) completed none and 6 (15%) completed all. Linear mixed modelling (with baseline observation included as a covariate) showed significant Bonferroni-adjusted post-hoc between-group differences for 5 of the 6 perfectionism measures, favouring the intervention group; the most robust between group effect sizes were for the Concern over Mistakes ($d = -0.82$), High Standards ($d = -0.69$), and Perfectionistic Standards ($d = -0.47$) subscales. There were no between-group differences for our secondary measures. ICBT-P was found to be an effective intervention for reducing different components of perfectionism compared to a control group. The relatively low use of modules may have contributed to a lack of effect on secondary measures.

Grundström, H., *Malmquist, A., Ivarsson, A., Torbjörnsson, E., Walz, M. & Nieminen, K.* (2022). Fear of childbirth postpartum and its correlation to post-traumatic stress symptoms and quality of life among women with birth complications – a cross sectional study. *Archives of Women's Mental Health, 25*, 485-491.

The primary aim of the study was to analyze differences in post-traumatic stress symptoms (PTSS) and quality of life (QoL) between women with and without severe fear of childbirth postpartum (PP FOC). The secondary aims were to analyze the correlation between PP FOC and PTSS, and PP FOC and QoL, in women undergoing complicated childbirth. This cross-sectional study was conducted in South-East Sweden. Women aged ≥ 18 years who had undergone complicated childbirth (i.e., acute or emergency cesarean section, vacuum extraction, child in need of neonatal care, manual placenta removal, sphincter rupture, shoulder dystocia, or hemorrhage ≥ 1000 ml) were invited. Seventy-six women answered demographic questions and three validated instruments measuring PP FOC, PTSS, and QoL. The study population was divided into two sub groups: severe PP FOC or no severe PP FOC. Statistical analyses were conducted using Mann–Whitney U-test, chi-square test or Fisher's exact test, and Spearman's rank-order correlation. Severe PP FOC was reported by 29% of the women, and 18% reported PTSS indicating post-traumatic stress disorder. Women with severe PP FOC reported significantly higher levels of PTSS, and significantly lower QoL in five dimensions: physical role functioning, emotional role functioning, energy/fatigue, emotional well-being, and social functioning. There was a positive significant correlation between level of PP FOC and PTSS. There were also significant negative correlations between level of PP FOC and most of the QoL dimensions. In conclusion, almost one-third of the women with complicated childbirth reported severe PP FOC, and almost one-fifth reported PTSS indicating post-traumatic stress disorder. PP FOC correlated with PTSS and deteriorated QoL.

Grundström, H., *Malmquist, A., Nieminen, K., & Alehagen, S.* (2022). Supporting women's reproductive capabilities in the context of childbirth: Empirical validation of a midwifery theory synthesis. *Midwifery, 110*, 103320.

To conduct an empirical validation of the theoretical model of midwifery care suggested by Peters et al. (2020). Design: A qualitative deductive methodology was used to validate the theoretical model of aims and objectives of midwifery care. The existing model was validated for midwifery care before, during and after childbirth by interviewing women who had reported high satisfaction with childbirth and low fear of childbirth postpartum. Setting: Data were collected via

interviews with women who had given birth from January to March 2018 at a middle-sized hospital in south-east Sweden. Swedish-speaking women aged ≥ 18 years, were invited by midwives to participate at a postpartum maternal healthcare ward, and they received oral and written information. They filled in a demographic questionnaire, a grading of their birth experience on a 0–10 numeric rating scale (NRS) and the Wijma Delivery Experience Questionnaire Version B (W-DEQ B). We used ≥ 7 as the cut-off for high satisfaction with childbirth (NRS), and a sum score ≤ 60 for low fear of childbirth (W-DEQ B). Of 172 women, 28 were eligible, of whom 20 were interviewed 8–13 months postpartum. The interviews were analysed using qualitative content analysis with a directed approach. All of the model's levels and their aspects were found in the interviews. All women had experienced a trusting relationship, including individual and woman-centred care, communication, choice and continuity, prompt attention and an empathic attitude. A majority described midwifery in terms of promoting security, and almost all had experienced aspects of personal control. The objective of midwifery care, described as the facilitation of women's reproductive capabilities, was described as being met by half of the women. The importance of pep talks and coaching was emphasized, and partner support could be added to the model. Our findings indicate that the theoretical model proposed by Peters et al. (2020) is mainly applicable to midwifery care of women reporting high satisfaction with their birth experience and low postpartum fear of childbirth. Our findings suggest that this model may serve as a clarification of the unique objective of midwifery care, and could be used by midwives in daily clinical work and in midwifery education programs.

Guerra, M., Garcia, D., Kazemitabar, M., Lindskär, E., Schütz, E., & Berglind, D. (2022). Effects of a 10-week physical activity Intervention on asylum seekers' physiological health. *Brain Sciences*, 12, 822.

The rise in armed conflicts has contributed to an increase in the number of asylum seekers. Prolonged asylum processes may negatively affect asylum seekers' health and lead to inactivity. Studies show that physical activity interventions are associated with improvements in health outcomes. However, there are a limited number of studies investigating the associations of physical activity on asylum seekers' health. Participants (263 males and 204 females), mostly from Syria, were assessed before and after a 10-week intervention for VO₂ max, body mass index (BMI), skeletal muscle mass (SMM), body fat, and visceral fat. Linear mixed models were used to test differences within groups, and a linear regression model analysis was performed to test whether physiological variables predicted adherence. Participants' VO₂ max increased: males by 2.96 mL/min/kg and females 2.57 mL/min/kg. Increased SMM percentages were seen in both genders: females by 0.38% and males 0.23%. Visceral fat area decreased: males by 0.73 cm² and females 5.44 cm². Participants showed significant increases in VO₂ max

and SMM and decreased visceral fat. This study provides an insight into asylum seekers' health and serves as a starting point to new interventions in which physical activity is used as a tool to promote and improve vulnerable populations' health.

Gärtner, M., Andersson, D., Västfjäll, D., & Tinghög, G. (2022). Affect and prosocial behavior: The role of decision mode and individual processing style. *Judgment and Decision Making, 17*, 1-13.

We study the effects of experimental manipulation of decision mode (rational “brain” vs. affective “heart”) and individual difference in processing styles (intuition vs. deliberation) on prosocial behavior. In a survey experiment with a diverse sample of the Swedish population (n = 1,828), we elicited the individuals' processing style and we experimentally manipulated reliance on affect or reason, regardless of subjects' preferred mode. Prosocial behavior was measured across a series of commonly used and incentivized games (prisoner's dilemma game, public goods game, trust game, dictator game). Our results show that prosocial behavior increased for the affective (“heart”) decision mode. Further, individual differences in processing style did not predict prosocial behavior and did not interact with the experimental manipulation.

Hagman, W., Erlandsson, A., Dickert, S., Tinghög, G., & Västfjäll, D. (2022). The effect of paternalistic alternatives on attitudes toward default nudges. *Behavioural Public Policy, 6*, 95-118.

Nudges are increasingly being proposed and used as a policy tool around the world. The success of nudges depends on public acceptance. However, several questions about what makes a nudge acceptable remain unanswered. In this paper, we examine whether policy alternatives to nudges influence the public's acceptance of these nudges: Do attitudes change when the nudge is presented alongside either a more paternalistic policy alternative (legislation) or a less paternalistic alternative (no behavioral intervention)? In two separate samples drawn from the Swedish general public, we find a very small effect of alternatives on the acceptability of various default nudges overall. Surprisingly, we find that when the alternative to the nudge is legislation, acceptance decreases and perceived intrusiveness increases (relative to conditions where the alternative is no regulation). An implication of this finding is that acceptance of nudges may not always automatically increase when nudges are explicitly compared to more paternalistic alternatives.

Hagman, W., Tinghög, G., Dickert, S., Slovic, P., & Västfjäll, D. (2022). Motivated down-regulation of emotion and compassion collapse revisited. *Frontiers in Psychology*, 4045.

Compassion collapse is a phenomenon where feelings and helping behavior decrease as the number of needy increases. But what are the underlying mechanisms for compassion collapse? Previous research has attempted to pit two explanations: Limitations of the feeling system vs. motivated down-regulation of emotion, against each other. In this article, we critically reexamine a previous study comparing these two accounts published in 2011 and present new data that contest motivated down-regulation of emotion as the primary explanation for compassion collapse.

Hallin, N., Västfjäll, D., & Andersson, G. (2022). Religious affiliation seldom seems to influence hiring or competence ratings of job applicants: studies conducted in Sweden and in the USA. *BMC Psychology*, 19, 220.

Religion is an important ingroup characteristic for many people. For different reasons, people with different religious affiliations might prefer members of their religious outgroup. Previous studies have investigated perceptions of and behaviour toward religious ingroup and outgroup members in various contexts. The four studies presented here investigated whether competence and likeability ratings differ depending on the target's and participant's religious affiliations in a recruitment context. Two studies were conducted in Sweden, while the other two were conducted in the USA. Participants in 4 studies rated a Christian, Muslim or atheist job applicant and a control applicant on 4 competence and 3 likeability items on 7-point Likert scales. The difference in ratings between the target applicant and control applicant was used to measure perceived competence and likeability of the target applicant. In the two latter studies, one in Sweden and one in the USA, participants also chose to hire either the target or the control applicant. Overall, participants in three studies rated control applicants as more likeable than target applicants. In the two US studies, targets were also rated as less competent than control applicants. Christian participants in the two US studies rated the Christian applicant as more likeable than both other targets. In the second US study, atheist participants rated Christians as less likeable than both other targets. In one of the Swedish studies, atheist participants rated the atheist applicant as more likeable than both other targets. The only significant difference in competence ratings between targets was made by Christian Swedes, who rated Muslim applicants as less competent than Christian applicants. The only significant difference in hiring decisions was that Swedish atheist participants hired Christians less often than they hired control applicants.

Together, the results suggest that job applicants are sometimes viewed as more likeable if they belong to a religious ingroup rather than a religious outgroup, but that this only rarely translates to significant differences in competence ratings or hiring decisions.

Hallström, S., Grundström, H., *Malmquist, A.*, Eklind, M. & Nieminen, K. (2022). Fear of childbirth and mental health among lesbian, bisexual, transgender and queer people: A cross-sectional study. *Journal of Psychosomatic Obstetrics & Gynecology*, 43, 526-531.

Most studies of fear of childbirth (FOC) are conducted on heterosexual cisgender pregnant populations of birth-giving parents. Among lesbian and bisexual women, as well as transgender and queer people (LBTQ), minority stress can add an extra layer to FOC. Gender binary and cisnormative assumptions leave it to the patient to educate and navigate healthcare providers, which can increase mental health problems. Objective: The aim of this study is to compare FOC and mental illness among expecting birth-giving parents and their partners in an LBTQ population. This cross-sectional study recruited 80 self-identified pregnant LBTQ persons and their 54 non-pregnant partners at a LBTQ specialized antenatal clinic in a large Swedish city of over one million inhabitants. The survey included socio-demographic characteristics, sexual and gender orientation, obstetric history, previous mental health, previous trauma exposure and measures of FOC and mental health. Levels of FOC were significantly higher for the pregnant participants (median W-DEQ 67.5) than for partners (median W-DEQ 60.0). The proportion of severe FOC was higher for pregnant participants (20.3%) than for partners (9.4%), although this difference was not statistically significant. Mental illness was significantly associated with FOC. Conclusion: The results add valuable information to our understanding of the specific needs of pregnant LBTQ people and their partners and may help us to develop healthcare in the future.

Hamatani, S., Matsumoto, K., Ishibashi, T., Shibukawa, R., Honda, Y., Kosaka, H., Mizuno, Y., & *Andersson, G.* (2022). Development of a culturally adaptable internet-based cognitive behavioral therapy for Japanese women with bulimia nervosa. *Frontiers in Psychiatry*, 13, 942936.

The process of cultural adaptation of internet-based cognitive behavioral therapy (ICBT) programs for bulimia nervosa (BN) have rarely been reported despite the potential influence of cultural adaptation of psychosocial interventions on therapeutic response. This study aimed to illustrate development process of an ICBT program for Japanese women with bulimia nervosa (BN). A mixed

methods approach was used to assess cultural adaptation of the prototype of an original ICBT program by using the Cultural Relevance Questionnaire (CRQ). Five women with BN and seven clinicians were interviewed using the CRQ. Quantitative analyses were conducted to assess cultural adaptation of the prototype of the program and participants rated cultural adaptation as high. A qualitative analysis of the mixed method supported the culturally sensitive changes implemented. The results of this study show that a series of processes can make ICBT programs more culturally adapted.

Hammar Chiriac, E., & Forslund Frykedal, K. (2022). Group work assessment intervention project - A methodological perspective. Cogent Education, 9, 2095885.

The assessment of individual knowledge and abilities should be frequently undertaken when learning is developed in interactions with other students, such as in group work and/or cooperative learning. Previous research reveals that group work assessment is a neglected research area, and this applies in particular to group work assessment interventions studies. The focus of this article is methodological, and its aim is to provide a reflective and critical account of a group work assessment intervention project, and the implications of the different choices made in this process. The intervention project that was scrutinized had a mixed-method longitudinal quasi-experimental design, and interventions in the form of shorter educational sessions were central to the project. Both qualitative and quantitative data were collected, analyzed, and compiled. The methodological issues discussed and problematized were the importance of (a) establishing collaboration with teachers; (b) well-thought-out and delimited methodological choices, and subsequent consequences; and (c) including both teachers and students to secure successful effects of the interventions. As a result of the study, it was concluded that intervention could be beneficial as a means of increasing the scientific knowledge in relation to intervention studies, and also to the emerging discourse on group work assessment.

Heimann, M. (2022). Imitation from infancy through early childhood: Typical and atypical development. Springer Nature.

This book summarizes more than four decades of imitation research in a Scandinavian context. The text (1) explores imitation as a means of understanding early memory, social communication, and language development in infants, (2) examines early memory development using deferred imitation a proxy of non-verbal episodic memory, and (3) provides support for imitation as an important initial intervention for newly diagnosed young children with autism.

Hesser, H. (2022). Identifying causal mechanisms in psychotherapy: what can we learn from causal mediation analysis? *Clinical Psychology and Psychotherapy*, 29, 1050-1058.

Despite widespread interest in the development of process-based psychotherapies, little is still known about the underlying processes that underpin our most effective therapies. Statistical mediation analysis is a commonly used analytical method to evaluate how, or by which processes, a therapy causes change in an outcome. Causal mediation analysis (CMA) represents a new advancement in mediation analysis that employs causally defined direct and indirect effects based on potential outcomes. These novel ideas and analytical techniques have been characterized as revolutionary in epidemiology and biostatistics, although they are not (yet) widely known among researchers in clinical psychology. In this paper, I outline the fundamental concepts underlying CMA, clarify the differences between the CMA approach and the traditional approach to mediation, and identify two important data analytical aspects that have been emphasized as a result of these recent advancements. To illustrate the key ideas, assumptions, and mathematical definitions intuitively, an applied clinical example from a previously published randomized controlled trial is used. CMA's main contributions are discussed, as well as some of the key challenges. Finally, it is argued that the most significant contribution of CMA is the formalization of mediation in a unified causal framework with clear assumptions.

Hjorth, O., Frick, A., Gingnell, M., Engman, J., Björkstrand, J., Faria, V., Alaie, I., Carlbring, P., Andersson, G., Jonasson, M., Lubberink, M., Antoni, G., Larsson, E.-M., Reis, M., Wahlstedt, K., Fredrikson, M., & Furmark, T. (2022). Serotonin and dopamine transporter availability in social anxiety disorder after combined treatment with escitalopram and cognitive-behavioral therapy. *Translational Psychiatry*, 12, 436.

Selective serotonin reuptake inhibitors (SSRIs) and internet-based cognitive behavioral therapy (ICBT) are recommended treatments of social anxiety disorder (SAD), and often combined, but their effects on monoaminergic signaling are not well understood. In this multi-tracer positron emission tomography (PET) study, 24 patients with SAD were randomized to treatment with escitalopram+ICBT or placebo+ICBT under double-blind conditions. Before and after 9 weeks of treatment, patients were examined with positron emission tomography and the radioligands [11C]DASB and [11C]PE2I, probing the serotonin (SERT) and dopamine (DAT) transporter proteins respectively. Both treatment combinations resulted in significant improvement as measured by the Liebowitz Social Anxiety Scale (LSAS). At baseline, SERT-DAT co-

expression was high and, in the putamen and thalamus, co-expression showed positive associations with symptom severity. SERT-DAT co-expression was also predictive of treatment success, but predictor-outcome associations differed in direction between the treatments. After treatment, average SERT occupancy in the SSRI + ICBT group was >80%, with positive associations between symptom improvement and occupancy in the nucleus accumbens, putamen and anterior cingulate cortex. Following placebo+ICBT, SERT binding increased in the raphe nuclei. DAT binding increased in both groups in limbic and striatal areas, but relations with symptom improvement differed, being negative for SSRI + ICBT and positive for placebo + ICBT. Thus, serotonin-dopamine transporter co-expression exerts influence on symptom severity and remission rate in the treatment of social anxiety disorder. However, the monoamine transporters are modulated in dissimilar ways when cognitive-behavioral treatment is given concomitantly with either SSRI-medication or pill placebo.

Holmqvist, R. (2022). Principles and practices of relational psychotherapy. Routledge.

This book provides an overview of the basic principles in relational therapy, which, in combination with the latest research about the significance of the therapeutic relationship, makes it possible to present practical therapeutic tools and techniques to help the therapist make optimal use of the interaction between patient and therapist. It presents models and concepts in relational psychotherapy that may contribute to the patient's development of relational and emotional competence, and to more authentic and meaningful ways of living with oneself and others. The book specially emphasizes the significance of the mutually constructed emotional interplay as the material for key experiences in the development of the patient – and therapist.

Jensen, E. S., Ladegaard, N., Mellentin, A. I., Ebert, D. D., Araya, R., Cerga-Pahoja, A., Hazo, J.-B., Cieslak, R., Smoktunowicz, E., Rivera, R.-M., Herrero, R., García-Palacios, A., Botella, C., Berger, T., Krieger, T., *Topooco, N., Andersson, G., Kemmeren, L., Kleiboer, A., Riper, H., & Mathiasen, K. (2022). Effect of sleep disturbance symptoms on treatment outcome in blended cognitive behavioral therapy for depression (E-COMPARED Study): Secondary analysis. Journal of Medical Internet Research, 24, e30231.*

Sleep disturbance symptoms are common in major depressive disorder (MDD) and have been found to hamper the treatment effect of conventional face-to-face psychological treatments such as cognitive behavioral therapy. To increase the dissemination of evidence-based treatment, blended cognitive behavioral therapy

(bCBT) consisting of web-based and face-to-face treatment is on the rise for patients with MDD. To date, no study has examined whether sleep disturbance symptoms have an impact on bCBT treatment outcomes and whether it affects bCBT and treatment-as-usual (TAU) equally. The objectives of this study are to investigate whether baseline sleep disturbance symptoms have an impact on treatment outcomes independent of treatment modality and whether sleep disturbance symptoms impact bCBT and TAU in routine care equally. The study was based on data from the E-COMPARED (European Comparative Effectiveness Research on Blended Depression Treatment Versus Treatment-as-Usual) study, a 2-arm, multisite, parallel randomized controlled, noninferiority trial. A total of 943 outpatients with MDD were randomized to either bCBT (476/943, 50.5%) or TAU consisting of routine clinical MDD treatment (467/943, 49.5%). The primary outcome of this study was the change in depression symptom severity at the 12-month follow-up. The secondary outcomes were the change in depression symptom severity at the 3- and 6-month follow-up and MDD diagnoses at the 12-month follow-up, assessed using the Patient Health Questionnaire-9 and Mini-International Neuropsychiatric Interview, respectively. Mixed effects models were used to examine the association of sleep disturbance symptoms with treatment outcome and treatment modality over time. Of the 943 patients recruited for the study, 558 (59.2%) completed the 12-month follow-up assessment. In the total sample, baseline sleep disturbance symptoms did not significantly affect change in depressive symptom severity at the 12-month follow-up ($\beta=.16$, 95% CI -0.04 to 0.36). However, baseline sleep disturbance symptoms were negatively associated with treatment outcome for bCBT ($\beta=.49$, 95% CI 0.22-0.76) but not for TAU ($\beta=-.23$, 95% CI -0.50 to 0.05) at the 12-month follow-up, even when adjusting for baseline depression symptom severity. The same result was seen for the effect of sleep disturbance symptoms on the presence of depression measured with Mini-International Neuropsychiatric Interview at the 12-month follow-up. However, for both treatment formats, baseline sleep disturbance symptoms were not associated with depression symptom severity at either the 3- ($\beta=.06$, 95% CI -0.11 to 0.23) or 6-month ($\beta=.09$, 95% CI -0.10 to 0.28) follow-up. Baseline sleep disturbance symptoms may have a negative impact on long-term treatment outcomes in bCBT for MDD. This effect was not observed for TAU. These findings suggest that special attention to sleep disturbance symptoms might be warranted when MDD is treated with bCBT. Future studies should investigate the effect of implementing modules specifically targeting sleep disturbance symptoms in bCBT for MDD to improve long-term prognosis.

Johansson, P., Lundgren, J., Andersson, G., Svensson, E., & Mourad, G. (2022). Internet-based cognitive behavioral therapy and its association with self-efficacy, depressive symptoms, and physical activity: Secondary analysis of a randomized controlled trial in patients with cardiovascular disease. *JMIR Cardio*, 6, e29926.

In patients with cardiovascular disease (CVD), knowledge about the associations among changes in depressive symptoms, self-efficacy, and self-care activities has been requested. This is because such knowledge can be helpful in the design of behavioral interventions aimed to improve self-efficacy, reduce depressive symptoms, and improve performance of self-care activities in CVD patients. We aim to evaluate if internet-based cognitive behavioral therapy (iCBT) improves self-efficacy and explore the relationships among changes in depressive symptoms, self-efficacy, and physical activity, as well as the influence of iCBT on these relationships. This study received funding in January 2015. Participant recruitment took place between January 2017 and February 2018, and the main findings were published in 2019. This study is a secondary analysis of data collected in a randomized controlled study evaluating the effects of a 9-week iCBT program compared to an online discussion forum (ODF) on depressive symptoms in patients with CVD (N=144). Data were collected at baseline and at the 9-week follow-up. Analysis of covariance was used to evaluate the differences in self-efficacy between the iCBT and ODF groups. Structural equation modeling explored the relationships among changes in depressive symptoms, self-efficacy, and physical activity, as well as the influence of iCBT on these relationships. At follow-up, a significant difference in the increase in self-efficacy favoring iCBT was found ($p=.04$, Cohen $d=0.27$). We found an indirect association between changes in depressive symptoms and physical activity ($\beta=-.24$, $p<.01$), with the change in self-efficacy acting as a mediator. iCBT had a direct effect on the changes in depressive symptoms, which in turn influenced the changes in self-efficacy ($\beta=.23$, $p<.001$) and physical activity ($\beta=.12$, $p<.001$). Self-efficacy was improved by iCBT. However, the influence of iCBT on self-efficacy and physical activity was mostly mediated by improvements in depressive symptoms.

Jovarauskaite, L., Murphy, D., Truskauskaite-Kuneviciene, I., Dumarkaite, A., Andersson, G., & Kazlauskas, E. (2022). Associations between moral injury and ICD-11 posttraumatic stress disorder (PTSD) and complex PTSD among help-seeking nurses: a cross-sectional study. *BMJ Open*, *12*, e056289.

This study aimed to evaluate how moral injury (MI), traumatic experiences and daily stressors were related to the symptoms of post-traumatic stress disorder (PTSD) and International Classification of Diseases 11th revision specific complex PTSD (CPTSD) symptoms of disturbances in self-organisation (DSO) in a treatment-seeking sample of nurses. A cross-sectional study design was used. Nurses from all regions of Lithuania participated in the study. The data were collected between April and May 2021. A total of 206 nurses, mean age 42.34 years (SD=11.68), 97.1% women and with 65% >10 years of work experience. The prevalence of PTSD and CPTSD in the treatment-seeking sample of nurses was 9.2% and 10.2%, respectively. The results of structural equation modelling indicated an acceptable model fit for the model regarding the links between trauma exposure, daily stressors, MI, PTSD and DSO symptoms, (χ^2 (df)=219.718 (123), $p<0.001$, Comparative Fit Index/Tucker-Lewis Index=0.937/0.922, root mean square error of approximation (90% CI)=0.062 (0.048 to 0.075), standardised root mean square residual=0.049). MI had a large effect on DSO symptoms, $\beta=0.667$, $p<0.001$, and a medium effect on PTSD symptoms, $\beta=0.394$, $p<0.001$. Daily stress but not trauma exposure was significantly related to MI, $\beta=0.618$, $p<0.001$. The prevalence of PTSD and CPTSD in a treatment-seeking sample of nurses inform healthcare administrators, policymakers and medical staff about the demand for psychosocial interventions for healthcare workers focused on stress management to address their daily stressors and mitigate effects on MI or trauma-focused treatments for PTSD/CPTSD.

Kazemitabar, M., Kheirkhah, M. T., Mokarrami, M., & Garcia, D. (2022). Does auditory attentional bias determine craving for methamphetamine? A pilot study using a word recognition dichotic listening task. *Heliyon*, *8*, e11311.

Obtaining reliable data under explicit evaluations is one of the most complicated challenges in assessing drug users' status. Respondents are likely to give answers that are to their advantage or deliberately deceitful. Regarding drug use, intense and inevitable drug craving is known as one of the main causes of relapse and treatment failure. As a matter of fact, drug craving is directly correlated to attentional bias towards drug-related stimuli, while drug-related stimuli capture

drug users' attention as a result of craving. Most methods for studying selective attention and attentional bias have been developed for visual modality. However, stimuli that capture drug users' attention are not always visual, they could be auditory. We examined if a modified word recognition dichotic listening task discriminated between methamphetamine users and non-users. Moreover, we investigated further the reliability and validity of this new paradigm. A total of 30 adult males participated in the study (15 methamphetamine users and 15 non-users). The word recognition dichotic listening task included two stimuli narratives/sequences (one neutral and one methamphetamine-related) that were presented simultaneously via headphones, one stimuli sequence to each ear. The participants were instructed to only pay attention to the neutral stimuli and to ignore the drug-related stimuli. Afterward, participants were asked to indicate in a list which words they recognized from the listening task and responded to the Desire for Drug Questionnaire, which was modified to address methamphetamine craving. In addition, a month after the experiment, we assessed therapy adherence among participants who were methamphetamine users. Methamphetamine users had a significantly lower performance in the word recognition dichotic task compared to non-users ($t = 4.30, p < .001$; Cohen's $d = 6.13$). Importantly, the average performance on the task was significantly higher among methamphetamine users who continued their treatment one month later compared to those who quit ($t = -2.56, p < .05$; Hedges' $g = 1.28$). Moreover, the intraclass correlation coefficient with 95% interval confidence for the word recognition dichotic listening task scores was excellent (ICC = 0.90) and the scores were significantly correlated with self-reported methamphetamine craving ($r = -.47, p < .001$). The modified word recognition dichotic listening task successfully discriminated between individuals who craved methamphetamine from those who did not. This new paradigm demonstrated high reliability and validity in the present pilot study. Due to the importance of preventing unreliable responses when assessing drug cravings, the current method can be, after further validation, utilized in both research and clinical practices.

Kienzler, M., Västfjäll, D., & Tinghög, G. (2022). Individual differences in susceptibility to financial bullshit. *Journal of Behavioral and Experimental Finance*, 34, 100655.

What is the effect of seemingly impressive verbal financial assertions that are presented as true and meaningful but are actually meaningless; that is, financial pseudo-profound bullshit? We develop and validate a novel measurement scale to assess consumers' ability to detect and distinguish financial bullshit. We show that this financial bullshit scale captures a unique construct that is only moderately correlated with related constructs such as financial knowledge, numeracy, and cognitive reflection. Consumers particularly vulnerable to financial bullshit are more likely to be young, male, have a higher income, and be overconfident with regards to their own financial knowledge. The ability to detect and distinguish financial bullshit also predicts financial well-being while being less predictive of consumers' self-reported financial behavior, suggesting that susceptibility to financial bullshit is linked to affective rather than behavioral reactions. Our findings have implications for the understanding of how financial communication impacts consumer decision making and financial well-being.

Klockare, E., Olsson, L., Gustafsson, H., Lundqvist, C., & Hill, A.P. (2022). Sport psychology consultants' views on working with perfectionistic elite athletes. *The Sport Psychologist*, 6, 219-227.

The purpose of this study was to explore the views and experiences of sport psychology consultants who have worked with perfectionistic elite athletes and, particularly, their views on the use of cognitive behavioral therapy (CBT). Semi-structured interviews were conducted with four professional sport psychology consultants who identified themselves as having experience of working with athletes they consider to be perfectionistic. Two themes were generated: manifestations of perfectionism and management of perfectionism. The consultants found perfectionistic athletes to have rigid attitudes and strong negative emotional experiences, to use safety behaviors and to regularly underperform. CBT techniques such as mindfulness, cognitive restructuring, and psychological skills training were most commonly used and were largely viewed as effective against a backdrop of sporting environment that could often encourage athletes to be perfectionistic. The findings highlight the complexity of

perfectionism from a consultancy perspective and the potential challenges associated with working with perfectionistic athletes.

Kolbeinsson, Ö. (2022). I don't want to hear it: Cognitive control strategies in response to task-irrelevant sound. Linköping Studies in Arts and Science 843, Linköping Studies in Behavioural Science 248, Linköping University.

An adequate capacity for cognitive control, the ability to maintain goal-directed behavior despite conflicting environmental demands, is a requirement for effective functioning. Whether it be the capacity to delay gratification or to effectively regulate emotions, various types of cognitive control allow us to function effectively despite the enormous complexity encountered in everyday life. Yet, some forms of cognitive control, such as thought suppression, have been shown to have delayed and potentially adverse consequences. Previous research has largely neglected to study cognitive control in the auditory domain, yet task-irrelevant and potentially distracting sounds are omnipresent, making this a highly interesting area of research. In the current thesis, I present findings from four experimental studies with an overall aim to investigate the use, effectiveness, and delayed consequences of cognitive control in the auditory domain.

In Study II and Study IV, the aim was to investigate the use of four common emotion regulation strategies in response to task-irrelevant, potentially distracting sound. Measures of emotional responding were also included to determine whether the use and effectiveness of these strategies was related to subjective emotion. In Study II, participants received either positive or negative information about an inherently neutral sound in an attempt to manipulate their emotional experience of the sound. In contrast, sounds used in Study IV were inherently negative or neutral. Results from both studies showed that all four of the surveyed emotion regulation strategies were used to some degree, and that participants reported use of multiple regulatory strategies. Results also suggest that subjective ratings of negative emotion in response to the sound were related to greater use of mental suppression, in line with findings from other sensory domains.

In Study I and Study III, we specifically investigated the delayed consequences of mental suppression. In line with previous research from other sensory modalities, results from the two experiments reported in Study I suggest that mentally suppressing awareness of a task-irrelevant sound results in delayed consequences. However, the nature of these consequences varied between experiments. This may be due to the use of different sound stimuli in the two experiments, where sounds from the first experiment were emotionally neutral and unintrusive, while sounds from the second were inherently aversive. In Study III, the aim was to replicate and expand on the findings from Study I, and specifically test for delayed consequences on perceptual responding. Mental

suppression, conceptualized as an experiential avoidance strategy, was compared to an approach focused strategy, with the hypothesis that mental suppression would result in hypervigilance toward previously suppressed stimuli. Results from the two experiments reported in Study III did not provide support for this hypothesis. In conclusion, results from the studies presented in the current thesis suggest that people regularly use cognitive control strategies in response to task-irrelevant sound, and that the use of these strategies may be related to subjective emotional experiences of the sound. Additionally, attempting to mentally suppress awareness of a sound may result in delayed consequences, but the circumstance under which these delayed consequences can be demonstrated are not yet understood. The included studies provide initial indications that developing adaptive strategies of coping with distracting sound can reduce the risk of long-term maladaptive consequences.

Kolbeinsson, Ö., Asutay, E., Enström, M., Sand, J. & Hesser, H. (2022). No sound is more distracting than the one you're trying not to hear: delayed costs of mental control of task-irrelevant neutral and emotional sounds. BMC Psychology, 10, 33.

Suppressing intrusive thoughts can result in a post-suppression rebound effect where the same thoughts become hyperaccessible. The current study aimed to investigate if similar so-called rebound effects could be observed when people attempted to mentally suppress awareness of nonsensical auditory stimuli. Based on previous research on thought suppression and mental control in other domains, we hypothesized that attempting to suppress awareness of a task-irrelevant sound while under cognitive load would impact evaluations of the sound on affective dimensions and loudness, and result in increased general vigilance, as evidenced by faster responding on subsequent tasks. We performed two experiments where participants in a suppression condition were initially instructed to mentally suppress awareness of a sound while performing a mentally challenging task. Participants in a control condition performed the same task without receiving any instructions regarding the sound. In Experiment 1, the sound was affectively neutral, while in Experiment 2 participants were presented with an inherently aversive (tinnitus-like) sound. After this initial phase, participants performed tasks measuring vigilance and attention, and were also asked to give subjective ratings of the sounds on a number of affective dimensions and loudness. In Experiment 1, participants in the suppression condition showed faster response times on both a visual search task and an auditory spatial cueing task, as compared to participants in the control condition. Contrary to our predictions, participants in the suppression condition did not rate the distractor sound as louder than participants in the control condition, and there were no differences on affective dimensions. In Experiment 2, results revealed that participants in the suppression condition made more errors on a visual search task, specifically on trials where

the previously suppressed sound was presented. In contrast to results from Experiment 1, participants in the suppression condition also rated the targeted sound as louder. The findings provide preliminary support for a post-suppression rebound effect in the auditory domain and further suggest that this effect may be moderated by the emotional properties of the auditory stimulus.

*Kolbeinsson, Ö., Asutay, E., Wallqvist, J. & Hesser, H. (2022). Prior information can alter how sounds are perceived and emotionally regulated. *Heliyon*, 8, e09793.*

In the current study, we provided participants with written information about emotional dimensions of a sound presented as a task-irrelevant sound in the context of a serial recall task. We were interested in whether this manipulation would influence sound perception and spontaneous use of emotion regulation strategies. Participants were informed that they would hear either an aversive and annoying sound, or a pleasant and calming sound. They subsequently performed three blocks of a serial recall task with the sound presented in the back-ground and rated the sound after each block. Results showed that participants in the negative information group rated the sound as more negative, with effects diminishing over repeated trials. While not impacting emotion regulation strategy directly, the manipulation indirectly influenced the degree to which participants used mental suppression as a regulatory strategy via changing affective responses. In the negative information condition specifically, participants who experienced the sound as more negative were more inclined to use mental suppression to deal with the sound, whereas no such relationship was observed in the positive information condition. The study adds to our understanding of how sounds come to acquire emotional meaning and how individuals spontaneously cope with emotional, task-irrelevant sounds.

*Kullgard, N., Holmqvist, R., & Andersson, G. (2022). Premature dropout from psychotherapy: prevalence, perceived reasons and consequences as rated by clinicians. *Clinical Psychology in Europe*, 4, e6695.*

Why clients discontinue their psychotherapies has attracted more attention recently as it is a major problem for many healthcare services. Studies suggest that dropout rates may be affected by the mode of therapy, low-quality therapeutic alliance, low SES, and by conditions such as personality disorders or substance abuse. The aims of the study were to investigate what happens in therapies which end in a dropout, and to estimate how common dropout is as reported by practicing clinicians. An online questionnaire was developed and completed by 116 therapists working in clinical settings. They were recruited via social media

(Facebook and different online psychotherapy groups) in Sweden and worked with Cognitive Behavioural Therapy (CBT), Psychodynamic Therapy (PDT), Interpersonal Psychotherapy (IPT) and Integrative Psychotherapy (IP). Psychotherapists rated the frequency of premature dropout in psychotherapy to be on average 8.89% (MD = 5, SD = 8.34, Range = 0-50%). The most common reasons for a dropout, as stated by the therapists, were that clients were not satisfied with the type of intervention offered, or that clients did not benefit from the treatment as they had expected. The most common feeling following a dropout was self-doubt. In conclusion, premature dropout is common in clinical practice and has negative emotional consequences for therapists. Premature dropout may lead to feelings of self-doubt and powerlessness among therapists. The therapeutic alliance was mostly rated as good in dropout therapies. Further research is needed to validate the findings with data on the prevalence and subjective reasons behind a dropout from point of view of clients.

Lind, T., Erlandsson, A., Västfjäll, D., & Tinghög, G. (2022). Motivated reasoning when assessing the effects of refugee intake. *Behavioural Public Policy*, 6, 213-236.

Do differences in worldview ideology hinder people from objectively interpreting the effect of immigration? In an experiment with Swedish adults ($n = 1015$), we investigate whether people display motivated reasoning when interpreting numerical information about the effects of refugee intake on crime rate. Our results show clear evidence of motivated reasoning along the lines of worldview ideology (i.e., whether people identify themselves primarily as nationally oriented or globally oriented). In scenarios where refugee intake was associated with higher crime rate, nationally oriented people were 18 percentage points more likely to make the correct assessment compared to globally oriented people. Likewise, in scenarios where refugee intake was associated with lower crime rate, nationally oriented people were 20 percentage points less likely to make the correct assessment compared to globally oriented people. Individuals with higher numeric ability were less likely to engage in motivated reasoning, suggesting that motivated reasoning more commonly is driven by feelings and emotional cues rather than deliberate analytical processes.

Lindegaard, T. (2022). Internet-based treatment of depression and anxiety among migrants and refugees in Sweden. Linköping Studies in Arts and Science 827, Linköping Studies in Behavioural Science 237, Linköping University.

There is a growing number of refugees and displaced persons worldwide, with many suffering the psychological consequences of traumatic and stressful events occurring both in their country of origin, during the migratory journey and after arriving in a new country. Despite this, there is limited evidence on how to best help refugees and migrants with the mental health problems that they sometimes experience. Internet-based interventions show promise in the treatment of many common mental disorders and can be adapted into different languages. The aim of the present thesis was to investigate the usefulness and efficacy of internet-based cognitive behavioural therapy (ICBT) for migrants and refugees in Sweden suffering from depression and anxiety. The studies in the thesis showed that both self-guided and therapist-guided ICBT can be acceptable interventions for Arabic-speaking adults with mild to moderate symptoms of depression and anxiety. In addition, support was also found for the efficacy of therapist-guided ICBT. However, with regards to Dari/Farsi speaking youth, it was found that the structure of the delivery format constituted a major barrier. Future studies should investigate if a blended treatment format can increase acceptance of ICBT for this population.

Lindegaard, T., Wasteson, E., Demetry, Y., Andersson, G., Richards, D., & Shahnavaaz, S. (2022). Investigating the potential of a novel Internet-based cognitive behavioural intervention for Dari and Farsi speaking refugee youth: A feasibility study. Internet Interventions, 28, 100533.

Over half of the world's forcibly displaced persons are under the age of 25, with many suffering from symptoms of psychological disorders. Many refugees from Afghanistan or Iran speak either Dari or Farsi, which are mutually intelligible dialects of the Persian language. Previous research on adult refugees and immigrants have shown that internet-based cognitive behavioural therapy (ICBT) can be a valuable complement to other forms of treatment. However, there is a lack of knowledge if ICBT is a feasible and acceptable treatment for adolescents and young adults with a refugee background. Fifteen Dari/Farsi-speaking adolescents and young adults between 15 and 26 years of age participated in a feasibility study of a novel individually tailored guided ICBT intervention targeting symptoms of common mental disorders such as anxiety and depression. Self-reported symptoms of anxiety and depression were assessed using the Hopkins Symptom Checklist-25 (HSCL-25) as the primary outcome measure.

Four of the treatment participants and three additional non-treatment participants consented to be interviewed regarding the programme's acceptability. The interviews were analysed using Thematic Analysis. The intervention suffered from low adherence, with only 3 participants completing the post-treatment assessment and with participants completing 0.9 modules on average, which meant that the intended quantitative analysis of the pre to post change was not possible. The thematic analysis resulted in two overarching categories, barriers and facilitators, that each contained four themes and related subthemes. Overall, the intervention was deemed culturally relevant and easy to understand. The most salient barriers to participation across interviews concerned interference of symptoms such as concentration difficulties, low energy, and a lack of human contact and support. The current version of the ICBT program demonstrated low feasibility and acceptability in the target population, which mainly seemed to be related to the delivery format. Future studies should investigate if a blended treatment format with regular phone/video calls with a therapist can increase adherence to the intervention.

Lundberg, T., Wurm, M., & *Malmquist, A.* (2022). Att göra livet (över)levbart: Transpersoners ontiska, relationella och reflekterande arbete för att hantera utsatthet i vardagen. *Tidskrift för Genusvetenskap*, 43, 7–26.

Transgender people report significantly poorer mental health than cisgender people. In psychological research, these health disparities are explained by theories of minority stress and microaggressions, while other disciplines use theories on normativity, livability, affective work, world making and utopias. Such theories are seldom picked up by psychologists even though they could serve to help psychological research and practice improve mental health in transgender people. The aim of this interview study was twofold. Empirically, it was to explore how 29 transgender people in Sweden (aged 17-63 years), experience and cope with vulnerability to make life survivable/livable. Analytically, psychological theories of minority stress, microaggressions and coping were put in conversation with theories of livability and emotional labor. Queer phenomenology was used to orient our analysis of the empirical material, as well as orient us theoretically, to find new ways of understanding transgender people's vulnerability psychologically. While participants' negative experiences are interpreted as covered by theories on minority stress and microaggressions, these theories do not explain all nuances of the exposure. In addition, theories on coping do not fully capture the constantly ongoing work participants need to do to manage everyday situations. The analysis resulted in three themes. One theme describes the ontic work that participants do in response to existential challenges of not being recognized as a subject. Another theme visualizes the relational work that participants do to deal with subtle exposure in their everyday life, trying to

relate to oneself and others simultaneously. The final theme shows that participants utilize reactive and agentic reflexivity to try to achieve minority peace and a livable life. We hope that this dialogue between psychology and gender studies can continue in a Swedish context to better serve transgender people's livability.

Lundberg, T., *Malmquist, A.* & Wurm, M. (2022). Upplevelser och hantering av minoritetsstress och mikroaggressioner bland unga hbtq-personer i Sverige. In: "*Jag är inte ensam, det finns andra som jag*": *Unga hbtqi-personers levnadsvillkor* (pp. 315-343). Myndigheten för ungdoms- och civilsamhällesfrågor.

Flera studier visar att psykisk och fysisk ohälsa är mer utbredd bland unga homosexuella, bisexuella, transpersoner och queera (hbtq-personer) än bland unga heterosexuella cispersoner. Unga hbtq-personer lider i högre grad än andra unga av depression, suicidtankar, ångest och oro och rapporterar en högre användning av alkohol och droger. Den förhöjda ohälsan bland hbtq-personer kan förklaras av utsatthet för så kallad minoritetsstress. Minoritetsstressmodellen är en vetenskaplig teori som förklarar hur belastande erfarenheter som diskriminering, hot och våld påverkar personer i utsatta minoritetsgrupper. Det finns i dag robust empiriskt stöd för modellen, men de flesta studier är gjorda på vuxna. Forskare har därför efterfrågat fler studier som specifikt fokuserar på ungdomars och unga vuxnas upplevelser av minoritetsstress. Detta kapitel redogör för en intervjustudie med hbtq-personer i åldern 17–30 år, där de berättar om sina upplevelser av minoritetsstress och mikroaggressioner, hur de upplever att detta påverkar dem och hur de hanterar sådana typer av erfarenheter.

Lundgren, O., Garvin, P., Nilsson, L., Tornerefelt, V., *Andersson, G.*, Kristenson, M., & Jonasson, L. (2022). Mindfulness-based stress reduction for coronary artery disease patients: Potential improvements in mastery and depressive symptoms. *Journal of Psychology in Medical Settings*, 29, 489–497.

Depressive symptoms after coronary events are associated with a worse prognosis. When changing the focus from psychopathology towards a resilience framework, treatments such as mindfulness meditation could offer novel ways to address psychological distress among coronary artery disease (CAD) patients. We studied the feasibility of mindfulness-based stress reduction (MBSR) for CAD patients with depressive symptoms. Seventy-nine CAD patients with elevated depressive symptoms were invited to an 8-week MBSR course. Twenty-four patients (30%) accepted and 16 (20%) completed MBSR. Depressive symptoms decreased immediately after the course ($p = .006$). After 12 months,

this improvement remained, and Mastery scores increased ($p = .005$). A reference group of 108 CAD patients did not show any significant changes in depressive symptoms or Mastery between 1 and 12 months after a coronary event. MBSR thus appears to be a feasible alternative for CAD patients with elevated depressive symptoms. Future studies are warranted to study if MBSR can improve psychological functioning in CAD patients.

*Lundqvist, C., Galli, A. N., & Brady, A. (2022). Editorial: Wellbeing and quality of life in elite sports: Towards evidence-based approaches for psychological health promotion and proactive support. *Frontiers in Psychology, 13*, 1071183.*

Wellbeing and mental health are hot topics in sports with an increasing number of studies published each year and significant media attention. Contemporary research reports several interrelated risk-factors for athlete mental health within elite sports-systems. Risk-factors include, for example, organizational stressors, stigma related to mental health problems, normalization of unhealthy behaviors, injuries, career dissatisfaction, harassment and abuse, and toxic sports leadership or other dysfunctional relationships. Increased commercialization and professionalization, together with stakeholders and media, place further demands and obligations on athletes. This Research Topic includes an important collection of articles spanning authors from several continents with contributions targeting mental health from a variety of conceptual and theoretical perspectives. Several articles have a direct application for researchers and practitioners working with mental health support in various elite athlete populations and cultures.

*Lundqvist, C., Jederström, L Korhonen M., Timpka, T. (2022). Nuances in key constructs need attention in research on mental health and psychiatric disorders in sports medicine. *BMJ Open Sport and Exercise Medicine, 8*, e001414.*

The WHO defines mental health as a state of well-being in which an individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully and is able to make a contribution to his or her community. According to this definition, mental health is more than a lack of symptoms of mental ill-being or disorders. Variations in mood and perception of symptoms, also with aversive valence, may occur during regular participation in competitive sports. This editorial discusses the importance of acknowledging nuances in studies of mental health and psychiatric disorders in sports medicine and calls for a deepened understanding of ‘mental health’ and how various mental health symptoms and disorders are reported.

Lundqvist, C., & Kristiansen, E. (2022). Lockdown and no lockdown: How Norwegian and Swedish elite athletes managed preparations for Tokyo 2020 and mental health challenges in the shadow of COVID-19. Frontiers in Sports and Active Living, 4, 918825.

The present study explored Norwegian and Swedish Olympic aspirants' perceived challenges for the preparations of Tokyo 2020 Olympic Games (OG) and risk and protective factors for mental health. The focus for this study was the timespan between the declaration of the postponement of Tokyo 2020 and the final months before the Games. A secondary purpose was to explore experiences of both elite athletes affected by lockdown (i.e., Norwegian athletes) and elite athletes not affected by lockdown in their home country (i.e., Swedish athletes). Twelve elite athletes (Norwegian: $n = 6$; Swedish: $n = 6$; Women: $n = 6$; Men: $n = 6$) with a mean age of 28.25 ($SD = 3.60$) participated. Semi-structured interviews were conducted between April and June 2021. Seven athletes had qualified and five were still trying to qualify. Eight of the interviewed athletes had previous experiences with OG participation. Template analysis revealed two main themes: (a) challenges and risk-factors for mental health and (b) protective factors. The pandemic exposed athletes to several psychological strains like uncertainty and difficulties with planning and preparations for the OG and personal and social challenges (i.e., worry about physical health and risk of overtraining, social contacts, identity, and life issues). Protective factors included perceived benefits of increased recovery and time for quality training. The athletes used several coping strategies and self-care behaviors (e.g., focus on the controllable, playfulness, putting sports in perspective, daily routines, short-term goals, working or studying for personal development) and they tapped into various internal and external psychosocial resources perceived as protective for mental health, personal growth, resiliency, and adjustment to the pandemic. The holistic perspectives used contribute to an increased understanding of elite sport athletes' mental health needs in stressful and unforeseen situations such as a pandemic.

Lundqvist, C., Macdougall, H., Noguchi, Y., Malherbe, A., & Abejean, F. (2022). When COVID-19 struck the world and elite sports: Experiences and perspectives from five different countries about challenges and psychological support provisions during the pandemic. Journal of Sport Psychology in Action, 13, 116-128.

The authors operated in professional roles related to preparations for Tokyo 2020 when the COVID-19 pandemic changed the world. The purpose of this article is to share applied experiences and reflections from different parts of the world of psychological challenges and support strategies adopted in elite sports during the first phase of the pandemic (i.e., March to August 2020). Common themes

included motivational issues, stress and anxiety, loss of routine, life-balance challenges among athletes, but also benefits of extended preparation time and recovery. Variations in support strategies and consequences from the effects of COVID-19 occurred across countries.

Lätth, J., Landgren, V., McMahan, A., Sparre, C., Eriksson, J., Malki, K., Söderquist, E., Görts Öberg, K., Rozental, A., Andersson, G., Kaldo, V., Långström, N., & Rahm, C. (2022). Effects of internet-delivered cognitive behavioral therapy on use of child sexual abuse material: A randomized placebo-controlled trial on the Darknet. *Internet Interventions, 30*, 100590.

The use of child sexual abuse material (CSAM) is an international public health and child protection challenge. The aim was to investigate whether Prevent It, a therapist-supported, internet-delivered, eight-week, cognitive behavioral therapy, reduces CSAM viewing among users. We conducted a global online single-blind (participants), parallel-group, superiority, randomized, psychological placebo-controlled trial with a one-month follow-up, 2019-2021 (ISRCTN76841676). We recruited anonymous participants, mainly from Darknet forums. Inclusion criteria: age 18+ years, past week CSAM use, and sufficient English language skills; exclusion criteria: severe psychiatric illness or non-serious intent to participate. The main outcome was change in self-reported, weekly viewing time from pre- to post-treatment, according to the Sexual Child Molestation Risk Assessment+. A total of 160 participants (157 male, 2 non-binary, and 1 not reporting gender) from all world regions (age intervals [%]: 18-29 [49]; 30-39 [30]; 40-49 [15]; 50-59 [6]) were randomized (1:1) to Prevent It (N = 80) or Placebo (N = 80). Between-group, intention-to-treat analyses suggested a significantly larger decrease in viewing time in Prevent It participants vs. controls pre- to post-treatment (Prevent It: N = 76, Placebo: N = 78, estimate -0.25, 95 % CI, -0.46 to -0.04, $p = .017$, Cohen's $d = 0.18$). Negative side effects from treatment were fewer in Prevent It compared to control participants and neither group reported severe adverse events. We provide initial support for the feasibility, efficacy, and safety of Prevent It to reduce CSAM viewing among motivated users. Further research is needed to validate these findings.

Maguire, A., Persson, E., Västfjäll, D., & Tinghög, G. (2022). COVID-19 and politically motivated reasoning. *Medical Decision Making, 42*, 1078-1086.

During the COVID-19 pandemic, the world witnessed a partisan segregation of beliefs toward the global health crisis and its management. Politically motivated reasoning, the tendency to interpret information in accordance with individual

motives to protect valued beliefs rather than objectively considering the facts, could represent a key process involved in the polarization of attitudes. The objective of this study was to explore politically motivated reasoning when participants assess information regarding COVID-19. Design: We carried out a preregistered online experiment using a diverse sample (N = 1,500) from the United States. Both Republicans and Democrats assessed the same COVID-19–related information about the health effects of lockdowns, social distancing, vaccination, hydroxychloroquine, and wearing face masks. Results: At odds with our pre-stated hypothesis, we found no evidence in line with politically motivated reasoning when interpreting numerical information about COVID-19. Moreover, we found no evidence supporting the idea that numeric ability or cognitive sophistication bolster politically motivated reasoning in the case of COVID-19. Instead, our findings suggest that participants base their assessment on prior beliefs of the matter. Conclusions: Our findings suggest that politically polarized attitudes toward COVID-19 are more likely to be driven by lack of reasoning than politically motivated reasoning—a finding that opens potential avenues for combating political polarization about important health care topics. Participants assessed numerical information regarding the effect of different COVID-19 policies. We found no evidence in line with politically motivated reasoning when interpreting numerical information about COVID-19. Participants tend to base their assessment of COVID-19–related facts on prior beliefs of the matter. Politically polarized attitudes toward COVID-19 are more a result of lack of thinking than partisanship.

Maitner, A. T., DeCoster, J., Andersson, P. A., Eriksson, K., Sherbaji, S., Giner-Sorolla, R., Mackie, D. M., Aveyard, M., Claypool, H. M., Crisp, R. J., Gritskov, V., Habjan, K., Hartanto, A., Kiyonari, T., Kuzminska, A. O., Manesi, Z., Molho, C., Munasinghe, A., Peperkoorn, L. S., Shiramizu, V., Smallman, R., Soboleva, N., Stivers, A. W., Summerville, A., Wu, B., & Wu, J. (2022). Perceptions of emotional functionality: similarities and differences among dignity, face, and honor cultures. *Journal of Cross-Cultural Psychology*, *53*, 263-288.

Emotions are linked to wide sets of action tendencies, and it can be difficult to predict which specific action tendency will be motivated or indulged in response to individual experiences of emotion. Building on a functional perspective of emotion, we investigate whether anger and shame connect to different behavioral intentions in dignity, face, and honor cultures. Using simple animations that showed perpetrators taking resources from victims, we conducted two studies across eleven countries investigating the extent to which participants expected victims to feel anger and shame, how they thought victims should respond to such

violations, and how expectations of emotions were affected by enacted behavior. Across cultures, anger was associated with desires to reclaim resources or alert others to the violation. In face and honor cultures, but not dignity cultures, shame was associated with the desire for aggressive retaliation. However, we found that when victims indulged motivationally-relevant behavior, expected anger and shame were reduced, and satisfaction increased, in similar ways across cultures. Results suggest similarities and differences in expectations of how emotions functionally elicit behavioral responses across cultures.

Malmquist, A. (2022). Pappa, pappa, barn: Gaypappors vägar till föräldraskap och familjeliv. Studentlitteratur.

För ett manligt samkönat par finns det flera möjliga vägar till föräldraskap. Men trots det står praktiska, rättsliga, ekonomiska och etiska hinder ofta i vägen. Därför kan det ta många år av överväganden, planering och drömmar innan paret blir föräldrar. Ett manligt samkönat par som vill bli föräldrar kan i dag adoptera barn, bli familjehemsföräldrar eller vända sig till en utländsk klinik för surrogatarrangemang. De kan också välja att gå samma med en kvinna i ett gemensamt föräldraskap. Om den ena mannen i paret är transperson så kanske han själv kan föda paret barn.

Malmquist, A. (2022). Transgender men forming two father families with their cisgender male partners: Negotiating gendered expectations and self-perception. LGBTQ+ Family, 18, 369-385.

This article explores the experiences of transgender men who became parents through childbirth and started families with their cisgender male partners. The study explores the transgender men's experiences of having and raising children in this family constellation, with a specific focus on how they experience gender in their parenting role. Semi-structured interviews were conducted with three participants. The data was transcribed and analyzed with thematic analysis. Results of the analysis showed that the participants had experienced gender dysphoria before and during pregnancy, but also embraced their childbearing capacity. As transgender fathers, they found themselves expected to fulfill gendered expectations for women and mothers but sometimes appreciated access to women's spaces. The participants had employed different strategies to protect their masculine selves, such as concealing their pregnancy and/or defending the right to be respected as transgender pregnant men. When passing as cisgender men, they experienced being praised for taking care of their children. They did not receive such praise when they were assumed to be women or known to be transgender men. The men struggled with inequality in their relationships, reflecting each partner's assigned gender at birth. Still, they emphasized that same-gender relationships facilitated attempts to achieve equality.

Malmquist, A., Hjerpe, M., Glaas, E., Karlsson, H. & Lassi, T. (2022). Elder people's perceptions of heat stress and adaptation to heat: An interview study. International Journal of Environmental Research and Public Health, 19, 3775.

Heatwaves are having a disproportionate impact on the elderly population, as demonstrated by pronounced mortality and morbidity. The present study aimed to explore elders' subjective experiences of heat impacts and adaptive strategies. Semi-structured interviews with 19 elderly Swedes were conducted, focusing on their experiences of the extremely hot summer of 2018. Most informants suffered during the heatwave, although some found it pleasant. The readiness to implement adaptive measures was generally high among the healthiest, who were able to avoid excessive heat and adjust their daily routines. In contrast, those highly dependent on care from others had limited options for avoiding the heat, and little capacity to take up adaptive measures. With heat becoming an increasing problem, it is important to adjust elderly care so that the most vulnerable elderly people can avoid excessive heat exposure.

Malmquist, A. & Klittmark, S. (2022). Heteronormative obstacles in regular antenatal education, and the benefits of LGBTQ certified options: Experiences among prospective LGBTQ parents in Sweden. In: M. Nolan & S. Gore (Eds.), Contemporary Issues in Perinatal Education (pp. 240-247). Routledge.

Prospective parents in Sweden are offered antenatal education led by midwives. The composition of some classes is based on the family situation, and some prospective parents are offered separate classes for LGBTQ parents. People who attend such separate classes are generally highly satisfied with the programme. They emphasize that they feel comfortable and find the discussed topics relevant to them. On the contrary, LGBTQ people who attend regular antenatal education reflect on hetero- and cis-normativity in the education, where midwives focus on stereotypic gender roles. In particular, non-pregnant mothers and pregnant transmasculine people feel excluded.

Manchaiah, V., Andersson, G., Fagelson, M. A., Boyd, R. L., & Beukes, E. W. (2022). Use of open-ended questionnaires to examine the effects of tinnitus and its relation to patient-reported outcome measures. International Journal of Audiology, 61, 592-599.

The primary aim of the study was to examine the automated linguistic analysis of the open-ended problem (PQ) and life-effects (LEQ) questionnaires to understand the psychological effects of tinnitus. The study used a cross-sectional design.

Participants completed online questionnaires which included demographic questions, several standardised patient-reported outcome measures (PROMs), and two open-ended questions focussing on PQ and LEQ related to tinnitus. The response to open-ended questions was analysed using the Linguistic Inquiry Word Count (LIWC) software to identify the frequency of text on various linguistic dimensions relevant to tinnitus. Study sample was 336 individuals with tinnitus. The study results point to two broad findings. First, although PQ and LEQ have some similarities with PROMs (e.g. the linguistic dimension negative emotions having a weak positive correlation with anxiety and depression), no correlation with the number of dimensions suggests that the open-ended questions identify additional elements that are not captured in PROMs. Second, more linguistic dimensions from the PQ correlate with PROMs compared to LEQ suggesting that the current PROMs are problem-oriented. The study results support the idea that the use of open-ended questions in addition to PROMs may help optimise the efforts in examining the effects of chronic conditions such as tinnitus.

Manchaiah, V., Venkateswaran, N. K., Prabhu, P., Granberg, S., Karlsson, E., Andersson, G., & Beukes, E. W. (2022). Examining the consequences of tinnitus using the multidimensional perspective. *Acta Oto-Laryngologica*, 142, 67-72.

Tinnitus is one of the most frequent chronic conditions in adults with wide range of consequences. The aim of the current study was to determine the problems and life effects reported by individuals with tinnitus using the International Classification of Functioning, Disability and Health (ICF) framework. The study used a cross-sectional survey design. A total of 344 individuals with tinnitus completed a series of questionnaires. The responses to open-ended questions were linked to ICF categories. Activity limitations and participation restrictions were most dominant consequence of tinnitus followed by effect on the body function with limited emphasis on the contextual factors. Frequently reported responses to body function involved emotional functions (b152), attention function (b140), and sleep functions (b134). Commonly reported responses to activity limitations and participation restrictions were recreation and leisure (d920), conversation (d350), communicating with-receiving-spoken messages (d310), listening (d115), and remunerative employment (d850). Sound intensity (e2500) and sound quality (e2501) were the frequently reported responses to environmental factors. Coping styles, past and present experiences, and lifestyle were the most frequently occurring personal factors. The study highlighted some key influencing factors of tinnitus in different ICF domains which can be helpful in rehabilitation planning.

Maroti, D., Axelsson, E., Ljótsson, B., Andersson, G., Lumley, M. A., & Johansson, R. (2022). Psychometric properties of the Emotional Processing Scale in individuals with psychiatric symptoms and the development of a brief 15-item version. *Scientific Reports*, *12*, 10456.

The 25-item Emotional Processing Scale (EPS) can be used with clinical populations, but there is little research on its psychometric properties (factor structure, test-retest reliability, and validity) in individuals with psychiatric symptoms. We administered the EPS-25 to a large sample of people (N = 512) with elevated psychiatric symptoms. We used confirmatory factor analysis to evaluate three a priori models from previous research and then evaluated discriminant and convergent validity against measures of alexithymia (Toronto Alexithymia Scale-20), depressive symptoms (Patient Health Questionnaire-9), and anxiety symptoms (Generalized Anxiety Disorder-7). None of the a priori models achieved acceptable fit, and subsequent exploratory factor analysis did not yield a clear factor solution for the 25 items. A 5-factor model did, however, achieve acceptable fit when we retained only 15 items, and this solution was replicated in a validation sample. Convergent and discriminant validity for this revised version, the EPS-15, was $r = -0.19$ to 0.46 vs. TAS-20, $r = 0.07$ - 0.25 vs. PHQ-9, and $r = 0.29$ - 0.57 vs. GAD-7. Test-retest reliability was acceptable (ICC = 0.73). This study strengthens the case for the reliability and validity of the 5-factor structure of the EPS but suggest that only 15 items should be retained. Future studies should further examine the reliability and validity of the EPS-15.

Matsumoto, K., Hamatani, S., Shimizu, E., Käll, A., & Andersson, G. (2022). Impact of post-COVID conditions on mental health: A cross-sectional study in Japan and Sweden. *BMC Psychiatry*, *22*, 237.

Due to the coronavirus disease 2019 (COVID-19) pandemic, people have undermined their mental health. It has been reported that post-COVID conditions at a certain rate. However, information on the mental health of people with post-COVID conditions is limited. Thus, this study investigated the relationship between post-COVID conditions and mental health. Design of the present study was an International and collaborative cross-sectional study in Japan and Sweden from March 18 to June 15, 2021. The analyzed data included 763 adults who participated in online surveys in Japan and Sweden and submitted complete data. In addition to demographic data including terms related to COVID-19, psychiatric symptoms such as depression, anxiety, and post-traumatic stress were measured by using the fear of COVID-19 scale (FCV-19S), Patient Health Questionnaire-9 (PHQ-9), General Anxiety Disorder-7 item (GAD-7), and Impact of Event Scale-Revised (IES-R). Of the 135 COVID-19 survivors among the 763 total participants, 37.0% (n = 50/135) had COVID-19-related sequelae.

First, the results of the Bonferroni-corrected Mann Whitney U test showed that the group infected SARS-CoV-2 with post-COVID conditions scored significantly higher than those without one and the non-infected group on all clinical symptom scales ($p \leq .05$). Next, there was a significant difference that incidence rates of clinical-significant psychiatric symptoms among each group from the results of the Chi-squared test ($p \leq .001$). Finally, the results of the multivariate logistic model revealed that the risk of having more severe clinical symptoms were 2.44-3.48 times higher among participants with post-COVID conditions. The results showed that approximately half had some physical symptoms after COVID-19 and that post-COVID conditions may lead to the onset of mental disorders.

Mechler, J., Lindqvist, K., Carlbring, P., *Topooco, N., Falkenström, F., Lillengren, P., Andersson, G., Johansson, R., Midgley, N., Edbrooke-Childs, J. J., Dahl, H.-S., Sandell, R., Thorén, A., Ulberg, R., Lindert Bergsten, K., & Philips, B.* (2022). Therapist-guided internet-based psychodynamic therapy versus cognitive behavioural therapy for adolescent depression in Sweden: a randomised, clinical, non-inferiority trial. *Lancet Digital Health*, 4, e594-e603.

Adolescent major depressive disorder (MDD) is highly prevalent and associated with lifelong adversity. Evidence-based treatments exist, but accessible treatment alternatives are needed. We aimed to compare internet-based psychodynamic therapy (IPDT) with an established evidence-based treatment (internet-based cognitive behavioural therapy [ICBT]) for the treatment of adolescents with depression. In this randomised, clinical trial, we tested whether IPDT was non-inferior to ICBT in the treatment of adolescent MDD. Eligible participants were 15-19 years old, presenting with a primary diagnosis of MDD according to DSM-5. Participants were recruited nationwide in Sweden through advertisements on social media, as well as contacts with junior and senior high schools, youth associations, social workers, and health-care providers. Adolescents who scored 9 or higher on the Quick Inventory of Depressive Symptomatology for Adolescents (QIDS-A17-SR) in an initial online screening were contacted by telephone for a diagnostic assessment using the Mini International Neuropsychiatric Interview. Participants were randomly assigned to ICBT or IPDT. Both interventions comprised eight self-help modules delivered over 10 weeks on a secure online platform. The primary outcome was change in depression severity measured weekly by the QIDS-A17-SR. Primary analyses were based on an intention-to-treat sample including all participants randomly assigned. A non-inferiority margin of Cohen's $d=0.30$ was predefined. The study is registered at ISRCTN, ISRCTN12552584. Between Aug 19, 2019, and Oct 7, 2020, 996 young people completed screening; 516 (52%) were contacted for a

diagnostic interview. 272 participants were eligible and randomly assigned to ICBT (n=136) or IPDT (n=136). In the ICBT group, 51 (38%) of 136 participants were classified as remitted, and 54 (40%) of 136 participants were classified as remitted in the IPDT group. Within-group effects were large (ICBT: within-group $d=1.75$, 95% CI 1.49 to 2.01; IPDT: within-group $d=1.93$, 1.67 to 2.20; both $p<0.0001$). No statistically significant treatment difference was found in the intention-to-treat analysis. Non-inferiority for IPDT was shown for the estimated change in depression during treatment ($d=-0.18$, 90% CI -0.49 to 0.13; $p=0.34$). All secondary outcomes showed non-significant between-group differences. IPDT was non-inferior to ICBT in terms of change in depression for the treatment of adolescents with MDD. This finding increases the range of accessible and effective treatment alternatives for adolescents with depression.

Mendes-Santos, C., Nunes, F., Weiderpass, E., Santana, R., & Andersson, G. (2022). Development and evaluation of the usefulness, usability, and feasibility of iNNOV Breast Cancer: a mixed-methods study. *JMIR Cancer*, 8, e33550.

Despite the efficacy of psychosocial interventions in minimizing psychosocial morbidity in breast cancer survivors (BCSs), intervention delivery across survivorship is limited by physical, organizational, and attitudinal barriers, which contribute to a mental health care treatment gap in cancer settings. The aim of this study is to develop iNNOV Breast Cancer (iNNOVBC), a guided, internet-delivered, individually tailored, acceptance and commitment therapy-influenced cognitive behavioral intervention program aiming to treat mild to moderate anxiety and depression in BCSs as well as to improve fatigue, insomnia, sexual dysfunction, and health-related quality of life in this group. This study also aims to evaluate the usefulness, usability, and preliminary feasibility of iNNOVBC. iNNOVBC was developed using a user-centered design approach involving its primary and secondary end users, that is, BCSs (11/24, 46%) and mental health professionals (13/24, 54%). We used mixed methods, namely in-depth semistructured interviews, laboratory-based usability tests, short-term field trials, and surveys, to assess iNNOVBC's usefulness, usability, and preliminary feasibility among these target users. Descriptive statistics were used to characterize the study sample, evaluate performance data, and assess survey responses. Qualitative data were recorded, transcribed verbatim, and thematically analyzed. Overall, participants considered iNNOVBC highly useful, with most participants reporting on the pertinence of its scope, the digital format, the relevant content, and the appropriate features. However, various usability issues were identified, and participants suggested that the program should be refined by simplifying navigation paths, using a more dynamic color scheme, including more icons and images, displaying information in different formats and versions, and developing smartphone and tablet versions. In addition, participants

suggested that tables should be converted into plain textboxes and data visualization dashboards should be included to facilitate the tracking of progress. The possibility of using iNNOVBC in a flexible manner, tailoring it according to BCSs' changing needs and along the cancer care continuum, was another suggestion that was identified. The study results suggest that iNNOVBC is considered useful by both BCSs and mental health professionals, configuring a promising point-of-need solution to bridge the psychological supportive care gap experienced by BCSs across the survivorship trajectory. We believe that our results may be applicable to other similar programs. However, to fulfill their full supportive role, such programs should be comprehensive, highly usable, and tailorable and must adopt a flexible yet integrated structure capable of evolving in accordance with survivors' changing needs and the cancer continuum.

Mendes-Santos, C., Nunes, F., Weiderpass, E., Santana, R., & Andersson, G. (2022). Understanding mental health professionals' perspectives and practices regarding the implementation of digital mental health: a qualitative study. *JMIR Formative Research*, 6, e32558.

Despite the potential of digital mental health to provide cost-effective mental health care, its adoption in clinical settings is limited, and little is known about the perspectives and practices of mental health professionals regarding its implementation or the factors influencing these perspectives and practices. This study aims to characterize in depth the perspectives and practices of mental health professionals regarding the implementation of digital mental health and explore the factors affecting such perspectives and practices. A qualitative study using in-depth semistructured interviews with Portuguese mental health professionals (N=13) -psychologists and psychiatrists- was conducted. The transcribed interviews were thematically analyzed. Mental health professionals deemed important or engaged in the following practices during the implementation of digital mental health: indication evaluation, therapeutic contract negotiation, digital psychological assessment, technology setup and management, and intervention delivery and follow-up. Low-threshold accessibility and professionals' perceived duty to provide support to their clients facilitated the implementation of digital mental health. Conversely, the lack of structured intervention frameworks; the unavailability of usable, validated, and affordable technology; and the absence of structured training programs inhibited digital mental health implementation by mental health professionals. The publication of practice frameworks, development of evidence-based technology, and delivery of structured training seem key to expediting implementation and encouraging the sustained adoption of digital mental health by mental health professionals.

Mihailovic, M., Garcia, D., Amato, C., Lindskär, E., Rosenberg, P., Björk, E., Lester, N., Cloninger, K. M., & Cloninger, C. R. (2022). The Personality of newly graduated and employed nurses: Temperament and character profiles of Swedish nurses. *International Journal of Nursing Studies Advances*, 4, 1000058.

One of the challenges of the 21st century is the high turnover rate in the nursing profession due to burnout and mental illness. From a biopsychosocial perspective, an individual's personality is an important vulnerability-resilience factor that comprises four temperament traits (i.e., a person's emotional reactions) and three character traits (i.e., self-regulation systems). Indeed, different personality profiles are associated to different coping strategies and health outcomes. We investigated and mapped the temperament and character of Swedish newly graduated and employed nurses' in relation to the Swedish general population and an age-matched sub-sample. In this cross-sectional study, nurses self-reported their personality (Temperament and Character Inventory) at the beginning of their employment. The data collection was conducted at a hospital in the South of Sweden. A total of 118 newly graduated and employed nurses ($M_{age} = 25.95 \pm 5.58$) and 1,564 individuals from the Swedish general population participated in the study. We calculated *T-scores* and *percentiles* for all seven personality dimensions using the Swedish norms ($N = 1,564$). The profiles were calculated by combining high/low *percentiles* scores in three temperament dimensions (Novelty Seeking: N/n, Harm Avoidance: H/h, and Reward Dependence: R/r) and in the three character dimensions (Self-Directedness: S/s, Cooperativeness: C/c and Self-Transcendence: T/t). Regarding *T-scores*, the nurses reported moderately lower Novelty Seeking ($> 0.5 SD$), slightly higher Harm-Avoidance (about $0.5 SD$), moderately higher Persistence ($> 0.5 SD$) and Reward Dependence ($> 0.5 SD$), and extremely lower Self-Directedness ($> 1 SD$). The prevalence of the most common temperament profiles among the nurses (Swedish general population in brackets) were: 39.80% [10.90%] Cautious (nHR), 21.20% [10.90] Reliable (nhR), and 15.30% [16.50%] Methodical (nHr). The prevalence of the most common character profiles among the nurses were: 31.40% [4.90%] Dependent (sCt), 25.40% [14.40%] Apathetic (sct), and 19.50% [8.80%] Moody (sCT). The analyses of the personality profiles showed that High Novelty Seeking (79%), high Harm Avoidance (65%) high Reward Dependence (80%), low Self-Directedness (95%), and low Self-Transcendence (60%) were more prevalent among the newly graduated and employed nurses. A well-developed character, for instance, is of special importance when working with patients with serious and terminal illness or under large global crises, such as the current pandemic. Perhaps, partially explaining newly graduated nurses' difficulties at work and high turnover rate. Hence, both education and

development at work need to be person-centered to reduce stress levels and promote positive self-regulation strategies.

Moche, H. (2022). Unequal valuations of lives and what to do about it : The role of identifiability, numbers, and age in charitable giving. Linköping Studies in Arts and Science 842, Linköping Studies in Behavioural Science 246, Linköping University.

Many people choose to donate money to help victims of humanitarian crises. However, people's donation decisions often fail to reflect that all victims are equally valuable to help. Instead, some victims seem to be favored. This thesis aims to better understand valuations of lives by looking at how people respond to charity appeals that differ on three factors: level of identifiability (if there is an identified victim or not), numbers in need (if there is one, few, or many victims in need), and age (if the victim is a child or an adult). This thesis also tests two kinds of interventions in charitable giving aimed to make people value lives more equally regarding numbers in need and the identifiability of victims.

Paper I investigated how the identifiable victim effect (i.e., more willingness to help an identified victim than unidentified victims) influences people's donation decisions if they are reminded of alternative uses of money (i.e., opportunity cost). In two studies, participants (N = 2397) saw a charity appeal that either included an identified victim or not, while either receiving an opportunity cost reminder or not. The results showed that for a one-time donation decision, people became less willing to donate when reminded of opportunity cost, but mainly for non-identified charity appeals. Paper II investigated how the victim's age relates to the identifiable victim effect. In three studies, participants (N = 1508) saw a charity appeal that either helped children or adults, and either included an identified victim or not. The results showed that people did not donate more if the charity appeal included an identified victim, regardless of whether the victim was a child or an adult, but that people were more motivated to help or more willing to donate to children than adults. Paper III investigated two types of deliberation interventions for the singularity effect (i.e., increased willingness to help a single identified victim over a group of identified victims). In two studies, participants (N = 900) saw a charity appeal that either depicted one or eight identified children in need, and either got an intervention prompting them to rely on deliberate thinking, an intervention asking them to rate the importance of four decision-relevant attributes, or no intervention at all. The singularity effect was found in control conditions, but not in either of the intervention conditions. However, this was at the expense of decreasing the help to the single victim, without increasing help to the group of victims. Paper IV investigated the unit asking intervention in relation to victim identifiability and the number of victims in need. In three studies, participants (N = 4206) either underwent the unit asking intervention, in which they indicated a hypothetical amount to one victim before answering how

much to donate to a group of victims, or no intervention. In the first two studies, participants also saw a charity appeal that either included an identified victim – with varying levels of identifiability – or not. In the third study, participants saw an appeal that either included the picture of one or five children, and involved providing help to either 20 or 200 children. People in control conditions were unaffected by whether the charity appeal included an identified victim or not, and they did not donate more when more victims were in need. However, participants in the unit asking conditions donated more when more victims were in need and donated more regardless of the level of identifiability. In conclusion, this thesis shows that people’s donation decisions are affected to different extents by the information in the charity appeal related to identifiability, numbers in need, and age – which can result in unequal valuations of lives. This thesis also shows that interventions, especially the unit asking method, can make valuations of lives more equal. Taken together, this thesis contributes to a broader understanding of how people make decisions regarding charity and how interventions can impact such decision-making processes.

*Moche, H., Gordon-Hecker, T., Kogut, T., & Västfjäll, D. (2022). Thinking, good and bad? Deliberative thinking and the singularity effect in charitable giving. *Judgment and Decision Making*, 17, 14–30.*

Can deliberation increase charitable giving when giving is impulsive (i.e., a one-time small gift in response to an immediate appeal)? We conduct two studies in Israel and Sweden to compare two forms of deliberation, unguided and guided, in their ability to decrease the singularity effect (i.e., giving more to one than many victims), often evident in impulsive giving. Under unguided deliberation, participants were instructed to simply think hard before making a donation decision whereas participants in the guided deliberation condition were asked to think how much different prespecified decision attributes should influence their decision. We find that both types of deliberation reduce the singularity effect, as people no longer value the single victim higher than the group of victims. Importantly, this is driven by donations being decreased under deliberation only to the single victim, but not the group of victims. Thus, deliberation affects donations negatively by overshadowing the affective response, especially in situations in which affect is greatest (i.e., to a single victim). Last, the results show that neither type of deliberation significantly reversed the singularity effect, as people did not help the group significantly more than the single victim. This means that deliberate thinking decreased the overall willingness to help, leading to a lower overall valuation of people in need.

Moche, H., & Västfjäll, D. (2022). To give or to take money? The effects of choice on prosocial spending and happiness. Journal of Positive Psychology, 17, 742–753.

Previous studies show that spending money on others makes people happier than spending it on themselves. The present study tested and extended this idea by examining the role of active versus passive choice and default choices. Here, 788 participants played and won money in a game, from which some of the earnings could be donated to charity. Participants were randomized to five conditions (control, passive or active choice, default to self or charity). Three measures of subjective well-being (SWB) were used. The results show that people who donated money were happier than people who kept money for themselves, and that active choices elicited significantly more negative affects than passive choices. Also, more people chose to keep the money when this was the default. Last, the greatest effect on happiness was to change from the set default. The results are in line with previous findings in positive psychology and decision making.

Molander, P., Andersson, G., & Hesser, H. (2022). Psychological acceptance in adults with hearing loss - Psychometric evaluation and validation of the Hearing Acceptance Questionnaire. Ear and Hearing, 43, 1752-1760.

Hearing loss is common and a major contributor to the global number of years lived with disability. An increasing number of studies have begun to consider the specific psychological processes by which distressing thoughts, emotional experiences and non-adaptive behaviours exert an influence on functioning and health among those who suffer from audiological disorders. Psychological acceptance has recently been proposed to be a core process but has to date not been systematically examined among individuals with hearing problems. This study examined the reliability, factor structure and the validity of the Hearing Acceptance Questionnaire (HAQ). The HAQ was developed from similar questionnaires for other chronic health conditions and was evaluated using data from an online screening of hearing ability (N=1351). Measures included a hearing test (speech-in-noise), standardized and validated self-report measurements of anxiety and depression symptoms (the Hospital Anxiety and Depression scale), hearing related disability (the Amsterdam Inventory of Hearing Disability and Handicap), and quality of life (the Quality of Life Inventory). Factor structure of the HAQ was evaluated with confirmatory factor analysis, and the unique contribution of psychological acceptance in accounting for variance in hearing disability was examined by hierarchical multiple regression analyses. Findings supported the reliability, factor structure and

validity of the HAQ. Confirmatory factor analysis supported a two-factor model with one subscale measuring Avoidance with 9 items; $\alpha = 0.84$) and the other Activity Engagement (3 items; $\alpha = 0.76$). Both subscales of the HAQ explained unique variance in disability after hearing ability, depression and anxiety symptoms were statistically taken into account. Theoretical and clinical implications of psychological acceptance in adults with hearing problems are discussed. This paper evaluated the psychometric properties of a new measure of hearing loss acceptance, the HAQ, to measure psychological acceptance among individuals with hearing problems. Regression analysis revealed that lack of psychological acceptance was strongly positively correlated with hearing disability, even after accounting for other psychological factors and hearing ability. Taken together, the findings provide preliminary support for HAQ as a psychometrically sound measure of psychological acceptance among individuals with hearing problems.

Monell, E., Birgegård, A., Nordgren, L., Hesser, H., & Bjureberg, J. (2022). Factor structure and clinical correlates of the original and 16-item version of the Difficulties In Emotion Regulation Scale in adolescent girls with eating disorders. *Journal of Clinical Psychology*, 78, 1201–1219.

The Difficulties in Emotion Regulation Scale (DERS) is increasingly used in adolescents. This study is the first to examine the factor structure, measurement, and structural invariance across age, reliability, and validity of the original 36-item and 16-item version of the DERS in adolescents with eating disorders. Several models were examined using confirmatory factor analysis. Measurement and structural invariance were studied across age groups, and Omega, Omega Hierarchical, and criterion validity were examined. A bifactor model, with five subscales, showed acceptable fit in both DERS versions. Measurement and structural invariance held across age. The general factor had high reliability and accounted for a large proportion of variance in eating pathology and emotional symptoms. The Awareness subscale had a negative effect on fit in DERS, but both DERS versions were reliable and valid measures in both younger and older adolescents with eating disorders when using only five subscales.

Mourad, G., Lundgren, J., Andersson, G., Husberg, M., & Johansson, P. (2022). Cost-effectiveness of internet-delivered cognitive behavioural therapy in patients with cardiovascular disease and depressive symptoms. Secondary analysis of a RCT. *BMJ Open*, *12*, e059939.

Cost-effectiveness evaluations of psychological interventions, such as internet-delivered cognitive behavioural therapy (iCBT) programmes, in patients with cardiovascular disease (CVD) are rare. We recently reported moderate to large effect sizes on depressive symptoms in CVD outpatients following a 9-week iCBT programme compared with an online discussion forum (ODF), in favour of iCBT. In this paper, we evaluate the cost-effectiveness of this intervention. Cost-effectiveness analysis of a randomised controlled trial. The EQ-5D-3L was used to calculate quality-adjusted life-years (QALYs). Data on healthcare costs were retrieved from healthcare registries. At 12-month follow-up, the QALY was significantly higher in iCBT compared with the ODF group (0.713 vs 0.598, $p=0.007$). The mean difference of 0.115 corresponds with 42 extra days in best imaginable health status in favour of the iCBT group over the course of 1 year. Incremental cost-effectiveness ratio (ICER) for iCBT versus ODF was €18 865 per QALY saved. The cost-effectiveness plane indicated that iCBT is a cheaper and more effective intervention in 24.5% of the cases, and in 75% a costlier and more effective intervention than ODF. Only in about 0.5% of the cases, there was an indication of a costlier, but less effective intervention compared with ODF. The ICER of €18 865 was lower than the cost-effectiveness threshold range of €23 400-€35 100 as proposed by the NICE guidelines, suggesting that the iCBT treatment of depressive symptoms in patients with CVD is cost-effective.

Nilsson, D., Svedin, C. G., Hall, F., Kazemi, E., & Dahlström, Ö. (2022). Psychometric properties of the Adolescent Resilience Questionnaire (ARQ) in a sample of Swedish adolescents. *BMC Psychiatry*, *22*, 468.

The importance of resilience, and interest in it, has increased markedly in recent years, based on the need to understand why some children and young people have a resilience to stress that others lack. At the same time, there has been a lack of instruments to measure resilience. The aim of this study was to translate the Adolescent Resilience Questionnaire (ARQ) into Swedish and investigate the psychometrics of this Swedish version. A normative sample of 616 students aged 15–17 was recruited through the school system in five different communities. Students filled out a digitalised composite form consisting of ARQ and three other standardised questionnaires, the Sense of Coherence Scale-13 (Soc-13), the Rosenberg Self-Esteem Scale (RSES) and the Relationship Questionnaire (RQ).

The ARQ, with five domains and twelve subscales, showed good alpha coefficients $\alpha = .95$ for the total scale and subscales ranging between $\alpha = .70$ to $.91$, except for the subscales Emotional insight ($\alpha = 0.69$) and Empathy/Tolerance ($\alpha = .61$). The convergent validity, which was tested for the first time in this study, was good, especially with the Internal Domain for both SOC-13 and RSES. The confirmatory factor analysis showed a satisfactory construct validity. Finally, some gender differences were seen, with boys scoring higher on the total ARQ scale. The study shows that the Swedish translation of ARQ has satisfactory psychometric properties. The ARQ could therefore be used as a tool for adolescents when evaluating the importance of resilience.

Nilsson, K., Westas, M., Andersson, G., Johansson, P., & Lundgren, J. (2022). Waiting for kidney transplantation from deceased donors: Experiences and support needs during the waiting time - A qualitative study. *Patient Education and Counseling*, 105, 2422-2428.

The study aimed to explore and describe patients' experiences of the transplantation process and the support they had received during the waiting time. Semi-structured interviews were conducted with 14 patients currently waiting for kidney transplantation from deceased donors ($n = 7$) or recently having received kidney transplantation ($n = 7$). Interviews were transcribed, anonymized and analysed inductively using thematic analysis. Two themes and seven sub-themes were identified. The first theme, "Swaying between hope and despair" describes patients' perceptions of waiting for transplantation as a struggle, their expectations for life after the upcoming transplantation and experienced disappointments. The second theme, "Making your way through the waiting time", describes support, strategies and behaviours used to manage the waiting time. Patients described life while waiting for kidney transplantation as challenging, involving unexpected events, not understanding the transplantation process and having unrealistic expectations on life after transplantation. They also described support, strategies and behaviours used, some of which led to unwanted consequences. Patients waiting for kidney transplantation from deceased donors need continuous and easily available education, practical and emotional support to manage the waiting time. Transplantation specific education is also needed to facilitate preparation for transplantation and adjustment to life after transplantation.

Nordgren, L., Ghaderi, A., Ljótsson, B., & Hesser, H. (2022). Identifying subgroups of patients with eating disorders based on emotion dysregulation profiles: A factor mixture modeling approach to classification. *Psychological Assessment, 34*, 367–378.

This study aimed to investigate whether individuals with eating disorders (ED; N = 857) could be empirically classified into qualitatively distinct subgroups based on their emotion dysregulation profiles. A series of increasingly complex models (factor analysis; FA, latent class analysis; LCA, and factor mixture models; FMM) were evaluated to determine whether the structure of psychopathology was best characterized by emotional dysregulation subtypes, dimensions, or a combination of the two. The subscales of the difficulties in emotion regulation scale were used as indicators. Data were split into an exploratory and confirmatory dataset, and the best-fitting models in the exploratory set were compared and validated against clinically relevant variables in the confirmatory set. Results confirmed that individuals could be grouped into three latent classes that were clearly distinguishable on ED pathology and psychiatric comorbidity. Specifically, individuals belonging to the class with more severe emotion dysregulation had higher levels of ED pathology and were more likely to engage in vomiting and binge eating as well as substance abuse and self-harm. These results provide initial support for emotional dysregulation profiling as a viable transdiagnostic approach to classification in the field of EDs.

Nordh, M., Serlachius, E., Hesser, H., Mataix-Cols, D. & Högström, J. (2022). Clinical, demographic and theory-derived maintaining factors as moderators of treatment outcome in internet-delivered cognitive behavioural therapy for children and adolescents with social anxiety disorder. *Behaviour Research and Therapy, 159*, 104230.

Internet-delivered cognitive behavioural therapy (ICBT) is an efficacious treatment for social anxiety disorder (SAD) in youth. However, we have limited knowledge about patient characteristics that may be associated with better (or worse) treatment outcome. Particularly concerning factors suggested to be involved in the maintenance of SAD (e.g., anticipatory anxiety and post-event processing). The aim of the current study was to evaluate possible predictors and moderators of the effect of ICBT in a randomised controlled trial where children and adolescents (N = 103; 10-17 years) with SAD received either ICBT or internet-delivered supportive therapy, ISUPPORT. Examined variables were pre-treatment levels of social anxiety, depression symptoms, putative maintaining factors as well as demographic variables like age and gender. Latent growth curve models were used to examine predictors and moderators of changes in youth and clinician rated social anxiety symptoms, from pre-treatment to 3-month follow-

up. Baseline depression symptoms moderated the outcome, with higher depression scores being associated with greater reduction of SAD symptoms in ICBT compared to ISUPPORT. More difficulties at baseline with anticipatory anxiety, post-event processing, focus of attention and safety behaviours predicted greater reduction of SAD symptoms, regardless of treatment condition. No other clinical or demographic variable predicted or moderated the outcome. In summary, baseline depression severity may be an important moderator of ICBT, but the preliminary finding needs replication in sufficiently powered trials.

Nyberg, S. (2022). Talking with each other: The role of language environment factors on early language development from different perspectives. Linköping Studies in Arts and Science 841, Linköping Studies in Behavioural Science 245, Linköping University.

A crucial aspect of children's language development is the language environment, and parental and home environment factors are particularly important during the early years. The overarching aim of this thesis was to investigate typically developed young children's language development in relation to parental and family home language environment factors. Specifically, language development was assessed in Swedish-learning children at 9 and 25 months of age. Different research perspectives and methods were used to gain a more nuanced understanding of the contributing factors to children's language development. This thesis is based on four papers that each cover different factors in the language environment. Papers I–III are based within developmental psychology and Paper IV is based within discursive psychology. Paper I investigated the relation between several language environment factors in the home and children's language development at 9 months. The results showed that linguistic input and child vocalization were significantly and positively associated with language development. This was not the case for interaction or electronic sound. Paper II investigated parental mental state talk (MST) and its relation to children's MST and general language development at 25 months. Parental MST was not significantly associated with either children's MST nor their general language development. Paper III investigated the relation between parental mind-mindedness (MM) when children were 9 months old and child language development at 9 and 25 months old. Parental MM was not significantly associated with language development at either 9 or 25 months. Paper IV examined in detail how children used MST, specifically the word vill 'want' in parent-child interactions. The results showed that children's use of the word vill 'want' accomplished several social actions, such as requesting, rejecting, and accounting for their own behavior. The results suggest a complex interaction between language environment factors and language development that can be examined from different research perspectives. This thesis has been a first step for developmental psychology and discursive psychology to talk with each other

and describe the contributions of each perspective to the phenomena of language development. How the relation between language environment and language development is researched depends on the theoretical approach and further research is needed in collaboration between approaches to gain as rich knowledge about child language as possible.

Pavlović, T., Azevedo, F., De, K., Riaño-Moreno, J. C., Maglić, M., Gkinopoulos, T., ... Västfjäll, D., & Van Bavel, J. J. (2022). Predicting attitudinal and behavioral responses to COVID-19 pandemic using machine learning. *PNAS Nexus*, 1, pgac093.

At the beginning of 2020, COVID-19 became a global problem. Despite all the efforts to emphasize the relevance of preventive measures, not everyone adhered to them. Thus, learning more about the characteristics determining attitudinal and behavioral responses to the pandemic is crucial to improving future interventions. In this study, we applied machine learning on the multinational data collected by the International Collaboration on the Social and Moral Psychology of COVID-19 (N = 51,404) to test the predictive efficacy of constructs from social, moral, cognitive, and personality psychology, as well as socio-demographic factors, in the attitudinal and behavioral responses to the pandemic. The results point to several valuable insights. Internalized moral identity provided the most consistent predictive contribution—individuals perceiving moral traits as central to their self-concept reported higher adherence to preventive measures. Similar results were found for morality as cooperation, symbolized moral identity, self-control, open-mindedness, and collective narcissism, while the inverse relationship was evident for the endorsement of conspiracy theories. However, we also found a non-negligible variability in the explained variance and predictive contributions with respect to macro-level factors such as the pandemic stage or cultural region. Overall, the results underscore the importance of morality-related and contextual factors in understanding adherence to public health recommendations during the pandemic.

Persson, E., Erlandsson, A., Slovic, P., Västfjäll, D., & Tinghög, G. (2022). The prominence effect in health-care priority setting. *Judgment and Decision Making*, 17, 1379-1391.

People often choose the option that is better on the most subjectively prominent attribute — the prominence effect. We studied the effect of prominence in health care priority setting and hypothesized that values related to health would trump values related to costs in treatment choices, even when individuals themselves evaluated different treatment options as equally good. We conducted pre-registered experiments with a diverse Swedish sample and a sample of

international experts on priority setting in health care (n = 1348). Participants, acting in the role of policy makers, revealed their valuation for different medical treatments in hypothetical scenarios. Participants were systematically inconsistent between preferences expressed through evaluation in a matching task and preferences expressed through choice. In line with our hypothesis, a large proportion of participants (General population: 92%, Experts 84% of all choices) chose treatment options that were better on the health dimension (lower health risk) despite having previously expressed indifference between those options and others that were better on the cost dimension. Thus, we find strong evidence of a prominence effect in health-care priority setting. Our findings provide a psychological explanation for why opportunity costs (i.e., the value of choices not exercised) are neglected in health care priority setting.

Rafi, J., Ivanova, E., Rozental, A., Lindfors, P., Andersson, G., & Carlbring, P. (2022). Effects of a workplace prevention program for problem gambling: A cluster-randomized controlled trial. *Journal of Gambling Issues*, 50, 73-97.

This study evaluated whether a preventive intervention program for problem gambling would increase managers' inclination to act when concerned about gambling in the workplace. Cluster-randomized controlled trial. Ten workplaces were randomized to either intervention or control condition. At the 12-month endpoint, there were n = 136 managers and n = 1594 subordinates in the intervention group, and n = 137 managers and n = 1150 subordinates in the waitlist group. The intervention consisted of (1) six hours of skill-development training for managers regarding gambling, problem gambling, gaming, and harmful use of psychoactive drugs, and (2) six to eight hours of assistance in developing or improving workplace gambling policy. The primary outcome was the managers' self-rated (on a 1 to 10 scale) inclination to act when concerned about an employee's problem gambling 12 months after baseline. Findings: The between-group difference in the managers' inclination for the full intervention group (M = 8) and the control group (M = 7.4) was not significant at the 12-month follow-up, but it was when only including managers who attended the skill development training (M = 8.2), $d = 0.31$, $p = .04$. A workplace prevention program aimed to increase managers' inclination to act when they are concerned regarding an employee's gambling resulted in statistically significant changes for those who attended training, but not for the whole intervention group when non-attendees were included.

Raysmith, B. P., Timpka, T., Jacobsson, J., Drew, M. K., & Dahlström, Ö. (2022). Design of the performance outcome scoring template (POS-T) with example application on CO₂ emissions reduction amongst 36 OECD member countries. *Scientific Reports*, *12*, 4404.

In applied program settings, such as in natural environment control and education, performance evaluation is usually conducted by evaluators considering both self-comparison and comparison with peers. We have developed the performance outcome scoring template (POS-T) for assessments with high face-validity in these settings. POS-T puts achievements of individuals or groups in context, i.e. the resulting performance outcome score (POS) reflects a meaningful measure of performance magnitude with regards to internal and external comparisons. Development of a POS is performed in four steps supported by a statistical framework. Software is supplied for creation of scoring applications in different performance evaluation settings. We demonstrate the POS-T by evaluation of CO₂ emissions reduction amongst 36 OECD member countries.

Rodrigo, H., Beukes, E. W., Andersson, G., & Manchaiah, V. (2022). Predicting the outcomes of Internet-based cognitive behavioral therapy for tinnitus: Applications of artificial neural network and support vector machine. *American Journal of Audiology*, *31*, 1167-1177.

Internet-based cognitive behavioral therapy (ICBT) has been found to be effective for tinnitus management, although there is limited understanding about who will benefit the most from ICBT. Traditional statistical models have largely failed to identify the nonlinear associations and hence find strong predictors of success with ICBT. This study aimed at examining the use of an artificial neural network (ANN) and support vector machine (SVM) to identify variables associated with treatment success in ICBT for tinnitus. The study involved a secondary analysis of data from 228 individuals who had completed ICBT in previous intervention studies. A 13-point reduction in Tinnitus Functional Index (TFI) was defined as a successful outcome. There were 33 predictor variables, including demographic, tinnitus, hearing-related and treatment-related variables, and clinical factors (anxiety, depression, insomnia, hyperacusis, hearing disability, cognitive function, and life satisfaction). Predictive models using ANN and SVM were developed and evaluated for classification accuracy. SHapley Additive exPlanations (SHAP) analysis was used to identify the relative predictor variable importance using the best predictive model for a successful treatment outcome. The best predictive model was achieved with the ANN with an average area under the receiver operating characteristic value of 0.73 ± 0.03 . The SHAP analysis revealed that having a higher education level and a greater baseline tinnitus severity were the most critical factors that influence treatment outcome

positively. Predictive models such as ANN and SVM help predict ICBT treatment outcomes and identify predictors of outcome. However, further work is needed to examine predictors that were not considered in this study as well as to improve the predictive power of these models.

Rosander, M. & Blomberg, S. (2022). Workplace bullying of immigrants working in Sweden. International Journal of Human Resource Management, 33, 2914–2938.

The aim of this study was to investigate the risks of being bullied at work based on country of birth, and compared to natives. We used a representative sample of the Swedish workforce collected in the autumn of 2017 (n=1856). The results showed a more than doubled risk of being bullied for the foreign-born. Coming from a culturally dissimilar country, the risk of becoming a victim of bullying was almost fourfold. The increased risk was only for person-related bullying, indicating a risk of being excluded from the social work environment. From a social identity perspective, foreign-born is a salient out-group easy to single out and with a predatory bullying origin they easily become the scapegoat of the group or just an easy target of frustration. There was a greater risk associated with self-labelling as bullied than with the behavioural experience method. Self-labelling could possibly be construed as a mix of exposure to bullying behaviours, and being discriminated against, making it a less suitable method when studying bullying for minorities. The study shows the importance of working with these issues. It severely affects both individuals and the organization in which the negative treatment is occurring.

Rosander, M., & Nielsen, M. B. (2022). Workplace bullying and tiredness at work: A cross-lagged prospective study of causal directions and the moderating effects of a conflict management climate. Journal of Occupational Health, 64, e12327.

Objectives were to prospectively investigate the reciprocal associations between tiredness at work (TAW) and exposure to bullying behaviors and to determine the role of conflict management climate (CMC) as a moderator of these associations. A two-wave national probability sample of employees in Sweden (18 months between waves, 921 participated at both waves) measuring TAW, workplace bullying, and CMC. Structural equation modelling was used to test four hypotheses about the longitudinal associations between feeling tired at work and bullying, and CMC as a moderator for the two directions. In the analyses of cross-lagged effects, tiredness was significantly associated with an increase in subsequent bullying ($\beta = 0.08, P = .01$). Exposure to bullying was not associated with changes in tiredness. CMC moderated the association between tiredness

and subsequent bullying ($\beta = -0.13$, 95% CI $[-0.19, -0.08]$), showing an increased risk of exposure to bullying behaviors following tiredness when CMC was low and decreased risk when CMC was high. TAW is a risk factor for subsequent bullying. Finding ways to help employees to reduce tiredness not only will help them perform better at work but also reduce the risk of them becoming targets of bullying. A strong CMC can act as a buffer if a tired person provoke aggression from co-workers.

Rosander, M., Salin, D., & Blomberg, S. (2022). The last resort: Workplace bullying and the consequences of changing jobs. Scandinavian Journal of Psychology, 63, 124–135.

This study investigated the consequences of changing jobs for employees subjected to workplace bullying. First, we hypothesized that bullied employees would be more likely to change jobs than non-bullied employees. Moreover, we hypothesized that changing jobs would result in a reduction of exposure to bullying behaviors and an alleviation of mental health problems for those bullied at baseline. The study was based on a longitudinal probability sample of the whole Swedish workforce ($n = 1,095$). The time lag was 18 months. The results supported all hypotheses except one. Those employees who were bullied at baseline were more likely to have changed jobs at follow-up. Also, for the changers there was a reduction in exposure to subsequent bullying. The actual drop in exposure to bullying behaviors was significant and substantial. This gives further support for the work environment hypothesis, suggesting the work context may be a more important cause than individual characteristics. As for mental health problems, the association between bullying and subsequent anxiety was not significant for those changing jobs, suggesting that leaving a toxic workplace may reduce anxiety relatively quickly. However, depression symptoms were not affected by the change of jobs, and the association between bullying and subsequent depression was the same 18 months later. The conclusion is that changing jobs can be a useful, last resort on an individual level, improving the situation for the victim of bullying. However, it is important to note that it does not solve any underlying organizational problems and risk factors.

Rosander, M., Forslund Frykedal, K., Barimani, M., & Berlin, A. (2022). Experiences from leading parental education groups: Perceived difficulties and rewards as an indication of skill acquisition. Journal of Child Health Care, 26, 68–81.

Developing skills in a professional setting is linked to practical experience. The relationship between experience and acquisition of skills can be seen as a transition from novice to expert. In a nursing setting, this has been studied using

the Dreyfus model of skill acquisition. The aim was to investigate how experience influences midwives' and child healthcare nurses' views of difficulties and rewards in working with parental education groups. The study has a cross-sectional design with a mixed methods approach. A total of 437 midwives and child healthcare nurses answered a web-based survey. First, a qualitative analysis was carried out, and then patterns of experience were analysed. The results showed that less experience as a leader corresponds to a greater focus on one's own role and on personal benefits from working with parents, but not on the specific context of the group. With experience, leaders had a greater focus on the group itself and rewards of making it function well. Not being able to take the current group and the specific context into account when working as a leader reduces possibilities of achieving a well-functioning group and the goals of the parental education.

Schary, P.D., & Lundqvist, C. (2022). Sport participation's effect on athlete mental health during COVID-19 restrictions. *Journal of Contemporary Athletics, 15*, 303-316.

Social support and sports participation are protective factors for mental health. Social distancing restrictions in the early phases of the COVID-19 pandemic limited student-athletes' social interactions with their teams and possibilities to perform their sports. This study aimed to determine the long-term effects of the social distancing restrictions on the positive (i.e., wellbeing and QOL) and negative (i.e., anxiety, depression, worry) elements of mental health. Our hypothesis was that participation and competition in sport would improve student-athletes' mental health by increasing positive mental health and decreasing negative mental health. Participants included 40 individual and team sports student-athletes (Mage = 19.7 years, SD = 1.18) from two NCAA Division I universities in the United States. Two data collection rounds were performed: October to November, 2020 and in February to March, 2021. The results did not support the hypothesis; no significant changes were found from restrictions to post-restrictions for positive mental health variables (total wellbeing, subjective wellbeing, psychological wellbeing, social wellbeing, and QOL) or negative mental health variables (anxiety, depression, worry) from restrictions to post-restrictions. We concluded that sport participation itself may not be as important for mental health as the physical activity and social connectedness that comes with sport. This study contributes important insights on essential factors that may support student-athletes in uncertain times.

Semonella, M., Andersson, G., Dekel, R., Pietrabissa, G., & Vilchinsky, N. (2022). Making a virtue out of necessity: COVID-19 as a catalyst for applying internet-based psychological interventions for informal caregivers. *Frontiers in Psychology, 13*, 856016.

Beyond all the well-known negative outcomes of this pandemic, COVID-19 also appears to have been a catalyst for many positive advances, including the reduced antagonism toward digital tools, such as internet-based interventions (Wind et al., 2020). The current momentum should be harnessed for the development and implementation of internet-based interventions around the globe, especially for populations in great need of these state-of-the-art solutions, such as informal caregivers.

Seewer, N., Skoko, A., Käll, A., Andersson, G., Luhmann, M., Berger, T., & Krieger, T. (2022). Evaluating the efficacy of a guided and unguided internet-based self-help intervention for chronic loneliness: Protocol for a 3-arm randomized controlled trial. *JMIR Research Protocols, 11*, e36358.

Loneliness, or perceived social isolation, is prevalent in both the general population and clinical practice. Although loneliness has repeatedly been associated with mental and physical health, research on interventions that reduce loneliness effectively is still rather scarce. This study aims to evaluate the efficacy of a guided and an unguided version of the same internet-based cognitive behavioral self-help program for loneliness (SOLUS-D) for adults. A total of 250 participants will be randomly assigned to 1 of 2 intervention groups (SOLUS-D with guidance or SOLUS-D without guidance) or a wait-list control group (2:2:1 allocation ratio). Adult participants experiencing high levels of loneliness will be recruited from the general population. Individuals currently experiencing at least moderately severe depressive symptoms, an ongoing severe substance use disorder, previous or current bipolar or psychotic disorder, or acute suicidality will be excluded from the trial. Assessments will take place at baseline, 5 weeks (midassessment), and 10 weeks (postassessment). The primary outcome is loneliness assessed using the 9-item University of California, Los Angeles Loneliness Scale at the posttreatment time point. Secondary outcomes include depressive symptoms, symptoms of social anxiety, satisfaction with life, social network size, and variables assessing cognitive bias and social behavior. The maintenance of potentially achieved gains will be assessed and compared at 6 and 12 months after randomization in the 2 active conditions. Potential moderators and mediators will be tested exploratorily. Data will be analyzed on an intention-to-treat basis. Recruitment and data collection started in May 2021 and are expected to be completed by 2022, with the 12-month follow-up to be completed

by 2023. As of the time of submission of the manuscript, 134 participants were randomized. This 3-arm randomized controlled trial will add to the existing research on the efficacy of loneliness interventions. Furthermore, it will shed light on the role of human guidance in internet-based treatments for individuals with increased levels of loneliness and the possible mechanisms of change. If SOLUS-D proves effective, it could provide a low-threshold, cost-efficient method of helping and supporting individuals with increased levels of loneliness.

Sinclair, S., Nilsson, A., & Agerström, J. (2022). Tolerating the intolerant: Does realistic threat lead to increased tolerance of right-wing extremists? *Journal of Social and Political Psychology*, 10, 35-47.

Previous research suggests that threat can bolster anti-immigration attitudes, but less is known about the effects of threat on ideological tolerance. We tested the hypothesis that realistic threats - tangible threats to e.g., the safety or financial well-being of one's group - bolster support for right-wing extremists. In Experiment 1, participants (N = 200) learned that crime and unemployment rates were either increasing (high threat condition) or remaining the same (low threat condition). Consistent with our hypothesis, higher threat led to a significant increase in tolerance for right-wing, but not left-wing, extremists. In a second, pre-registered extended replication experiment (N = 385), we added a baseline (no threat) condition. Additionally, attitudes to immigrants were examined as a mediator. This experiment produced non-significant threat effects on tolerance of right-wing extremists. Overall, the current research provides weak support for the hypothesis that realistic threats have asymmetric effects on tolerance of political extremists. However, consistent with previous research, people were more tolerant of extremists within their own ideological camp.

Skagenholt, M. (2022). Neurocognitive foundations of child and adult number processing: Neural correlates and functional circuits across typical development. *Linköping Studies in Arts and Science 829, Linköping Studies in Behavioural Science 238*, Linköping University.

The ability to mentally represent the exact numerosity of up to four perceived objects, as well as approximately estimating differences in numerical magnitude, appears to constitute a core-cognitive number sense. Symbolic representations of number (e.g., “two” and “2”) have been argued to gain meaning through a mapping against the analog nonsymbolic numerical magnitude representation (e.g., ●●). Alternatively, symbolic number processing abilities may develop independently of nonsymbolic numerical cognition, instead dependent on learning the order and content of the verbal count-list (i.e., 1, 2, 3, ...). This thesis

aimed to determine which of these proposals best correspond to the brain's processing of numerical information, with implications for the development of mathematics curricula. Four neuroimaging studies provide biomarkers for typical numerical cognition. Results indicate that symbolic numbers increasingly acquire semantic reference from other symbols; nonsymbolic quantities are processed in an asemantic visuospatial manner; neural correlates reach adult-level maturity at 11 years of age; numerical order and magnitude recruit independent mechanisms; and that maturation of executive functions and lexico-semantics is key for symbolic number processing. These results support the view of increasingly independent mechanisms for symbolic and nonsymbolic numerical cognition across development.

Skagenholt, M., Skagerlund, K., & Träff, U. (2022). Neurodevelopmental differences in task-evoked number network connectivity: Comparing symbolic and nonsymbolic number processing in children and adults. Developmental Cognitive Neuroscience, 58, 101159.

Numerical cognition can take place in multiple representational formats, such as Arabic digits (e.g., 1), verbal number words (e.g., “two”), and nonsymbolic (e.g., •••) numerical magnitude. Basic numerical discrimination abilities are key factors underlying the development of arithmetic abilities, acting as an important developmental precursor of adult-level numeracy. While prior research has begun to detail the neural correlates associated with basic numerical discrimination skills in different representational formats, the interactions between functional neural circuits are less understood. A growing body of evidence suggests that the functional networks recruited by number discrimination tasks differ between children and adults, which may provide valuable insights into the development of numerical cognition. To this end, we posed two questions: how do the interactions between functional circuits associated with number processing differ in children and adults? Are differences in functional network connectivity modulated by numerical representational codes? A theoretically motivated 22 ROI analysis indicated significant functional connectivity differences between children and adults across all three codes. Adults demonstrated sparser and more consistent connectivity patterns across codes, indicative of developmental domain-specialization for number processing. Although neural activity in children and adults is similar, the functional connectivity supporting number processing appears subject to substantial developmental maturation effects.

Spjut Janson, B., Heimann, M., & Koch, F-S. (2022). Combining a being imitated strategy with IBT improves basic joint attention behaviors in young children with ASD. *Frontiers in Psychiatry, 12*, 784991.

In the present study, we examined how an initial being imitated (BIm) strategy affected the development of initiating joint attention (IJA) among a group of children newly diagnosed with autism spectrum disorder (ASD). One group received 3 months of BIm followed by 12 months of intensive behavior treatment (IBT) which equaled treatment as usual whereas a second group received IBT for the entire 15-month study period. We utilized two measures of IJA: an eye gaze and a gesture score (point and show). IJA did not change during the first 3 months of treatment, nor were any significant between-group differences noted. However, at the end of the 15-month-long intervention period, the BIm group used eye gaze significantly more often to initiate joint attention. No significant change was noted for the gesture score. These results suggest that an early implementation of a being imitated strategy might be useful as less resource intensive but beneficial “start-up” intervention when combined with IBT treatment as a follow-up.

Spreco, A., Andersson, C., Sjö Dahl, R., Dahlström, Ö., & Timpka, T. (2022). Hospital bed occupancy for COVID-19 or with SARS-CoV-2 infection in a Swedish county during the omicron wave. *Influenza and other Respiratory Viruses, 16*, 1194–1196.

We conclude that appropriate routines for infectious disease control should be developed for management of hospital patients testing positive for SARS-CoV-2 at admission but treated for other conditions than COVID-19 during the omicron wave.

Spreco, A., Dahlström, Ö., Jöud, A., Nordvall, D., Fagerström, C., Blomqvist, E., Gustafsson, F., Hinkula, J., Schön, T., & Timpka, T. (2022). Effectiveness of the BNT162b2 mRNA vaccine compared with hybrid immunity in populations prioritized and non-prioritized for COVID-19 vaccination in 2021–2022: A Naturalistic Case-Control Study in Sweden. *Vaccines, 10*, 1273.

The term hybrid immunity is used to denote the immunological status of vaccinated individuals with a history of natural infection. Reports of new SARS-CoV-2 variants of concern motivate continuous rethought and renewal of COVID-19 vaccination programs. We used a naturalistic case-control study

design to compare the effectiveness of the BNT162b2 mRNA vaccine to hybrid immunity 180 days post-vaccination in prioritized and non-prioritized populations vaccinated before 31 July 2021 in three Swedish counties (total population 1,760,000). Subjects with a positive SARS-CoV-2 test recorded within 6 months before vaccination ($n = 36,247$; 6%) were matched to vaccinated-only controls. In the prioritized population exposed to the SARS-CoV-2 Alpha and Delta variants post-vaccination, the odds ratio (OR) for breakthrough infection was 2.2 (95% CI, 1.6–2.8; $p < 0.001$) in the vaccinated-only group compared with the hybrid immunity group, while in the later vaccinated non-prioritized population, the OR decreased from 4.3 (95% CI, 2.2–8.6; $p < 0.001$) during circulation of the Delta variant to 1.9 (95% CI, 1.7–2.1; $p < 0.001$) with the introduction of the Omicron variant (B.1.617.2). We conclude that hybrid immunity provides gains in protection, but that the benefits are smaller for risk groups and with circulation of the Omicron variant and its sublineages.

Spreco, A., Jöud, A., Eriksson, O., Soltesz, K., Källström, R., Dahlström, Ö., Eriksson, H., Ekberg, J., Jonson, C.-O., Fraenkel, C.-J., Lundh, T., Gerlee, P., Gustafsson, F., & Timpka, T. (2022). Nowcasting (short-term forecasting) of COVID-19 hospitalizations using syndromic healthcare data, Sweden, 2020. *Emerging Infectious Diseases*, 28, 564–571.

We report on local nowcasting (short-term forecasting) of coronavirus disease (COVID-19) hospitalizations based on syndromic (symptom) data recorded in regular healthcare routines in Östergötland County (population $\approx 465,000$), Sweden, early in the pandemic, when broad laboratory testing was unavailable. Daily nowcasts were supplied to the local healthcare management based on analyses of the time lag between telenursing calls with the chief complaints (cough by adult or fever by adult) and COVID-19 hospitalization. The complaint cough by adult showed satisfactory performance (Pearson correlation coefficient $r > 0.80$; mean absolute percentage error $< 20\%$) in nowcasting the incidence of daily COVID-19 hospitalizations 14 days in advance until the incidence decreased to $< 1.5/100,000$ population, whereas the corresponding performance for fever by adult was unsatisfactory. Our results support local nowcasting of hospitalizations on the basis of symptom data recorded in routine healthcare during the initial stage of a pandemic.

Strauss, A. Y., Halaj, A., Zalaznik, D., Fradkin, I., Katz, B. A., Zlotnick, E., Barzilay, S., Andersson, G., Ebert, D. D., & Huppert, J. F. (2022). Internet delivered guided cognitive behavioral self-help for panic disorder: An open trial and benchmarking study. *Journal of Behavioral and Cognitive Therapy*, 32, 73-83.

An open trial of a therapist-guided internet cognitive-behavioral therapy (ICBT) for panic disorder with and without agoraphobia (PD/A) was conducted. Ninety adults diagnosed with PD/A were treated using ICBT adapted from a face to face (FTF) protocol. Results were benchmarked against two FTF samples, one at the same research site using the same protocol and another from a large cognitive-behavioral therapy (CBT) study. In addition, effects were compared to mean aggregated estimates from four meta-analyses. Attrition rates and therapist time were also examined to facilitate cost-effectiveness analyses and inform policy makers. Both full intent-to-treat and completer samples were used when analyzing data. Overall, results suggest that within-group effects for ICBT (0.88 to 1.7) are similar to the effects found in the benchmarking samples and to effects across meta-analytic studies. Effects were larger for symptoms assessed by an independent evaluator compared to self-report measures. Treatment gains continued to increase 3 months after post treatment and were maintained at 6 month and 1 year follow-up. However, attrition rates in ICBT were twice as large (46%) compared to the FTF sample, possibly due to a more conservative definition of attrition used here compared to previous reports. Therapist time in ICBT was reduced by a factor of three (14 min/week) compared to FTF, suggesting that treatment effects can be maintained even when reducing therapist time. Taken together, these findings suggest good short and long-term efficacy and time efficiency along with greater attrition for ICBT, allowing for dissemination and enhancing accessibility to quality, evidence-based treatment in the community.

Sundqvist, A., Koch, F-S., Söderberg, M., Barr, R., & Heimann, M. (2022). Qualitative and quantitative aspects of child-directed parental talk and the relation to 2-year-old's developing vocabulary. *Infancy*, 27, 682-699.

Although prior research has independently linked vocabulary development with toddlers' media usage, parental mental state talk (MST), and parent-child conversational turn-taking (CTT), these variables have not been investigated within the same study. In this study, we focus on associations between these variables and 2-year-old's (N = 87) vocabulary. Child vocabulary and digital media use were measured through online questionnaires. We took a multimethod approach to measure parents' child-directed talk. First, we used a

home sound environment recording (Language ENvironment Analysis technology) to estimate parents' talk (CTT). Second, parents narrated a picture book, the Frog story, to assess the parent's MST. There was a negative association between how much children watched video content and their vocabulary. However, parents reported that they frequently co-viewed and engaged with the child and media. The negative association first displayed between the amount of video content viewed and the child's developing vocabulary was fully mediated by the parents' qualitative and quantitative talk as measured by MST and CCT, respectively. We propose that the parent relative level of MST and CTT also occurs when parents engage with the child during media use.

Sunnhed, R., Hesser, H., Andersson, G., Carlbring, P., Lindner, P., Harvey, A. G., & Jansson-Fröjmark, M. (2022). Mediators of cognitive therapy and behavior therapy for insomnia disorder: a test of the processes in the cognitive model. *Journal of Consulting and Clinical Psychology, 90*, 696-708.

The aim was to examine if the processes in the cognitive model mediate cognitive therapy (CT) and behavior therapy (BT) for insomnia. Individuals diagnosed with insomnia disorder ($n = 219$) were randomized to telephone-supported internet-delivered CT ($n = 72$), BT ($n = 73$), or a wait-list (WL; $n = 74$). Cognitive processes (worry, dysfunctional beliefs, monitoring, and safety behaviors) proposed to maintain insomnia and treatment outcome (insomnia severity index) were assessed biweekly. Criteria for evaluating mediators were assessed via parallel process growth modeling and cross-lagged panel models. Parallel process growth modeling showed that dysfunctional beliefs, monitoring, and safety behaviors significantly mediated the effects of both CT and BT. Cross-lagged panel models confirmed that dysfunctional beliefs and monitoring (approaching significance) influenced subsequent within-individual change in insomnia severity in CT. In BT, however, prior changes in insomnia severity predicted subsequent changes in worry and monitoring, and reciprocal influences among processes and outcomes were observed for dysfunctional beliefs and safety behaviors. Furthermore, the effect of safety behaviors on outcome was significantly larger for BT compared to CT. Together, the findings support the role of dysfunctional beliefs and monitoring as processes of change in CT and safety behaviors as a specific mediator in BT. Limited evidence was provided for worry as a mediator. The findings could improve clinical management and increase our conceptual understanding of insomnia and its maintaining factors by underscoring the relevance of these three processes for insomnia, as well as indicate important routes for future research, such as investigating how baseline

presentations might moderate these mediations, for example moderated mediation.

Sörqvist, P., MacCutcheon, D., Holmgren, M., Haga, A., & Västfjäll, D. (2022). Moral spillover in carbon offset judgments. *Frontiers in Psychology, 13*, 957252

Moral spillover occurs when a morally loaded behavior becomes associated with another source. In the current paper, we addressed whether the moral motive behind causing CO₂ emissions spills over on to how much people think is needed to compensate for the emissions. Reforestation (planting trees) is a common carbon-offset technique. With this in mind, participants estimated the number of trees needed to compensate for the carbon emissions from vehicles that were traveling with various moral motives. Two experiments revealed that people think larger carbon offsets are needed to compensate for the emissions when the emissions are caused by traveling for immoral reasons, in comparison with when caused by traveling for moral reasons. Hence, moral motives influence people's judgments of carbon-offset requirements even though these motives have no bearing on what is compensated for. Moreover, the effect was insensitive to individual differences in carbon literacy and gender and to the unit (kilograms or tons) in which the CO₂ emissions were expressed to the participants. The findings stress the role of emotion in how people perceive carbon offsetting.

Tholander, M., Johansson, S., Thunell, K., & Dahlström, Ö. (2022). Traces of pornography: Shame, scripted action, and agency in narratives of young Swedish women. *Sexuality & Culture, 26*, 1819–1839.

The purpose of this study was to explore young women's experiences of pornography and how they believe pornography has affected both themselves and other adolescents in terms of sexuality and sexual experiences. Seven young women aged 17–18 years were interviewed and their narratives were analyzed through thematic analysis. The results show that the participants' pornography consumption has at times evoked feelings of shame in relation to their official feminist stance. Moreover, they all report experiences of being pressured to adopt a "supporting role" in sex and to perform in line with a narrow pornographic script, thus compromising their wish to enjoy sex and enact sexual agency. It is also evident how the participants have struggled to navigate through the conflicting positions that are available within a postfeminist culture, for instance in relation to feminism, heterosexual gender norms, and the strong ideal of being an "agent" in sex. In the pursuit of young women's healthy sexual development, the results highlight the need for safe female venues, a relational understanding

of agency, cultural change rather than individualized responsibility, porn literacy training, and the advancement of broader sexual scripts.

Thornberg, R., Forsberg C., *Hammar Chiriac, E.*, & Bjereld, Y. (2022). Teacher–student relationship quality and student engagement: A sequential explanatory mixed-methods study. *Research Papers in Education*, 37, 840–859.

The overall objective of this study was to examine the links between teacher–student relationship quality and student engagement, delimited to affective and behavioural engagement. We used a sequential explanatory mixed methods research approach that consisted of a quantitative phase, in which survey data were collected and analysed within a short-term longitudinal design, followed by a qualitative phase, in which focus group interviews and constructed grounded theory analysis were conducted. Participants included 234 students from two Swedish compulsory schools in the quantitative phase, and 120 in the qualitative phase. The quantitative findings revealed that teacher–student relationship quality predicted student engagement one year later, even when controlling for sex, age, and prior student engagement. The longitudinal association between teacher–student relationship quality and student engagement was unidirectional. The qualitative findings reported students’ own perspectives on what they considered to be a good teacher and their ideas of how their teachers and classroom setting influence their affective and behavioural engagement at school. Two significant categories emerged: ‘teacher being’ and ‘teacher doing’.

Timpka, J., Löhle, M., Bremer, A., Christiansson, S., Gandor, F., Ebersbach, G., *Dahlström, Ö.*, Iwarsson, S., Nilsson, M. H., Storch, A., & Odin, P. (2022). Objective observer vs. patient motor state assessments using the PD home diary in advanced Parkinson’s disease. *Frontiers in Neurology*, 13, 935664.

The Parkinson Disease (PD) Home Diary (HD) is a commonly used clinical outcome measure, but it has not been extensively compared to direct assessments by experienced observers. Validation of patient-reported HD by investigating the agreement between motor state assessments by patients and observers. This observational study included patients with PD and motor fluctuations. Observers were physicians or research nurses. Patients completed a screening visit, one day of diary ratings at home, and then two days of ratings on-site during which patients and observers simultaneously judged the participants' motor state. Observers and 40 patients completed 1,288 pairs of half-hourly blinded motor state assessments. There were significant differences between observer and patient ratings ($P < 0.001$) and the temporal agreement was poor (Cohen's $\kappa =$

0.358). The agreement between patient and observer ratings was 71.1% for observed “On without dyskinesia”, 57.3% for observed “Off”, and 49.4% for observed “On with dyskinesia”. Daily times spent in the three motor states as aggregated diary data showed fair to excellent reliability with intraclass coefficient values ranging from 0.45 to 0.52 for “On” and 0.77 for “Off”. There were significant differences between observer and patient ratings. Patients and observers generally agreed on when the patients was in the “On” state (with or without dyskinesia). Patient ratings on the hour level seem to be influenced by other aspects of the patients' experience than the observed motor state, but assessment of daily time spent in the different motor state provides reasonable reliability.

Timpka, T., *Dahlström, Ö.*, Fagher, K., Adami, P. E., Andersson, C., Jacobsson, J., Svedin, C. G., & Bermon, S. (2022). Vulnerability and stressors on the pathway to depression in a global cohort of young athletics (track and field) athletes. *Scientific Reports, 12*, 7901.

This research set out to identify pathways from vulnerability and stressors to depression in a global population of young athletes. Retrospective data were collected at age 18–19 years from Athletics athletes (n = 1322) originating from Africa, Asia, Europe, Oceania, and the Americas. We hypothesised that sports-related and non-sports-related stressors in interaction with structural vulnerability instigate depression. Path modelling using Maximum likelihood estimation was employed for the data analysis. Depression caseness and predisposition were determined using the WHO-5 instrument. Thirty-six percent of the athletes (n = 480) returned complete data. Eighteen percent of the athletes reported lifetime physical abuse, while 11% reported sexual abuse. Forty-five percent of the athletes had recently sustained an injury. The prevalence of depression caseness was 5.6%. Pathways to depression caseness were observed from female sex ($p = 0.037$) and injury history ($p = 0.035$) and to predisposition for depression also through exposure to a patriarchal society ($p = 0.046$) and physical abuse ($p < 0.001$). We conclude that depression in a global population of young athletes was as prevalent as previously reported from general populations, and that universal mental health promotion in youth sports should include provision of equal opportunities for female and male participants, injury prevention, and interventions for abuse prevention and victim support.

Topooco, N., Fowler, L., Fitzsimmons-Craft, E. E., DePietro, B., Vázquez, M. M., Firebaugh, M. L., Ceglarek, P., Monterubio, G., Newman, M., Eisenberg, D., Wilfley, D. E., & Taylor C.B (2022). Digital interventions to address mental health needs in colleges: Perspectives of student stakeholders. *Internet Interventions*, 28, 100528.

The need for clinical services in U.S. colleges exceeds the supply. Digital Mental health Interventions (DMHIs) are a potential solution, but successful implementation depends on stakeholder acceptance. This study investigated the relevance of DMHIs from students' perspectives. In 2020-2021, an online cross-sectional survey using mixed methods was conducted with 479 students at 23 colleges and universities. Respondents reported views and use of standard mental health services and DMHIs and rated the priority of various DMHIs to be offered through campus services. Qualitative data included open-ended responses. Among respondents, 91% reported having experienced mental health problems, of which 91% reported barriers to receiving mental health services. Students highlighted therapy and counseling as desired and saw flexible access to services as important. With respect to DMHIs, respondents had the most experience with physical health apps (46%), mental health questionnaires (41%), and mental well-being apps (39%). Most were unaware of or had not used apps or self-help programs for mental health problems. Students were most likely to report the following DMHIs as high priorities: a crisis text line (76%), telehealth (66%), websites for connecting to services (62%), and text/messaging with counselors (62%). They considered a self-help program with coach support to be convenient but some also perceived such services to be possibly less effective than in-person therapy. Students welcome DMHIs on campus and indicate preference for mental health services that include human support. The findings, with particular focus on characteristics of the DMHIs prioritized, and students' awareness and perceptions of scalable DMHIs emphasized by policymakers, should inform schools looking to implement DMHIs.

Town, J. M., *Falkenström, F.*, Abbass, A., & Stride, C. (2022). The anger-depression mechanism in dynamic therapy: Experiencing previously avoided anger positively predicts reduction in depression via working alliance and insight. *Journal of Counseling Psychology*, 69. 326-336.

A central tenet of psychodynamic theory of depression is the role of avoided anger. However empirical research has not yet addressed the question of for which patients and via what pathways experiencing anger in sessions can help. The therapeutic alliance and acquisition of patient insight are important change

processes in dynamic therapy and may mediate the anger-depression association. This study was embedded into a randomized trial testing the efficacy of Intensive Short-Term Dynamic Psychotherapy (ISTDP) for treatment resistant depression. In-session patient affect experiencing (AE) was coded for every available session (475/481) by blinded observers in 27 patients randomized to ISTDP. Dynamic Structural Equation Modeling was used to examine within-person associations between variation in depression scores session-by-session and both patient ratings (alliance) and observer ratings (AE and insight) of the treatment process. Alliance and insight were independent mediators of the effect of anger on next-session depression. However, the relative importance of these two indirect effects of anger on depression was conditional on pretreatment patient personality pathology (PP). In patients with higher PP, in-session anger was negatively related to depressive symptoms next session, with this effect operating through higher alliance. In patients with low PP, in-session anger was negatively related to depressive symptoms next session, with this effect operating through enhanced patient insight. These findings highlight an anger-depression mechanism of change in dynamic therapy. Depending upon patient personality, either an "insight pathway" or a "relational pathway" may promote the effectiveness of facilitating arousal and expression of patients' in-session feelings.

Van Bavel, J. J., Cichocka, A., Capraro, V., Sjästad, H., Nezlek, J. B., Pavlović, T., ... Västfjäll, D., ... & Jørgensen, F. J. (2022). National identity predicts public health support during a global pandemic. *Nature Communications*, *13*, 517.

Changing collective behaviour and supporting non-pharmaceutical interventions is an important component in mitigating virus transmission during a pandemic. In a large international collaboration (Study 1, N = 49,968 across 67 countries), we investigated self-reported factors associated with public health behaviours (e.g., spatial distancing and stricter hygiene) and endorsed public policy interventions (e.g., closing bars and restaurants) during the early stage of the COVID-19 pandemic (April-May 2020). Respondents who reported identifying more strongly with their nation consistently reported greater engagement in public health behaviours and support for public health policies. Results were similar for representative and non-representative national samples. Study 2 (N = 42 countries) conceptually replicated the central finding using aggregate indices of national identity (obtained using the World Values Survey) and a measure of actual behaviour change during the pandemic (obtained from Google mobility reports). Higher levels of national identification prior to the pandemic predicted lower mobility during the early stage of the pandemic ($r = -0.40$). We discuss the potential implications of links between national identity, leadership, and public health for managing COVID-19 and future pandemics.

Van Genugten, C. R., Schuurmans, J., Hoogendoorn, A., Araya, R., Andersson, G., Baños, R. M., Berger, T., Botella, C., Cerga Pashoja, A., Cieslak, R., Ebert, D. D., García-Palacios, A., Hazo, J.-B., Herrero, R., Holtzmann, J., Kemmeren, L., Kleiboer, A., Krieger, T., Rogala, A., Titzler, I., *Topooco, N.*, Smit, J., & Riper, H. (2022). A data-driven clustering method for discovering profiles in the dynamics of major depressive disorder using a smartphone-based ecological momentary assessment of mood. *Frontiers in Psychiatry, 13*, 755809.

Although major depressive disorder (MDD) is characterized by a pervasive negative mood, research indicates that the mood of depressed patients is rarely entirely stagnant. It is often dynamic, distinguished by highs and lows, and it is highly responsive to external and internal regulatory processes. Mood dynamics can be defined as a combination of mood variability (the magnitude of the mood changes) and emotional inertia (the speed of mood shifts). The purpose of this study is to explore various distinctive profiles in real-time monitored mood dynamics among MDD patients in routine mental healthcare. Ecological momentary assessment (EMA) data were collected as part of the cross-European E-COMPARED trial, in which approximately half of the patients were randomly assigned to receive the blended Cognitive Behavioral Therapy (bCBT). In this study a subsample of the bCBT group was included (n = 287). As part of bCBT, patients were prompted to rate their current mood (on a 1-10 scale) using a smartphone-based EMA application. During the first week of treatment, the patients were prompted to rate their mood on three separate occasions during the day. Latent profile analyses were subsequently applied to identify distinct profiles based on average mood, mood variability, and emotional inertia across the monitoring period. Overall, four profiles were identified, which we labeled as: (1) "very negative and least variable mood" (n = 14) (2) "negative and moderate variable mood" (n = 204), (3) "positive and moderate variable mood" (n = 41), and (4) "negative and highest variable mood" (n = 28). The degree of emotional inertia was virtually identical across the profiles. The real-time monitoring conducted in the present study provides some preliminary indications of different patterns of both average mood and mood variability among MDD patients in treatment in mental health settings. Such varying patterns were not found for emotional inertia.

Van Hoy, A., Rzeszutek, M., Pięta, M., Mestre, J. M., Rodríguez-Mora, Á., Midgley, N., Omylinska-Thurston, J., Dopierala, A., *Falkenström, F.*, Ferlin, J., Gergov, V., Lazić, M., Ulberg, R., Røssberg, J. I., Hancheva, C., Stoyanova, S., Schmidt, S. J., Podina, I., Ferreira, N., Kagialis, A., ... Gruszczyńska, E. (2022). Burnout among psychotherapists: a cross-cultural value survey among 12 European countries during the coronavirus disease pandemic. *Scientific Reports*, *12*, 13527.

The aim of this study was to examine cross-cultural differences, as operationalized by Schwartz's refined theory of basic values, in burnout levels among psychotherapists from 12 European countries during the coronavirus disease (COVID-19) pandemic. We focused on the multilevel approach to investigate if individual- and country-aggregated level values could explain differences in burnout intensity after controlling for sociodemographic, work-related characteristics and COVID-19-related distress among participants. 2915 psychotherapists from 12 countries (Austria, Bulgaria, Cyprus, Finland, Great Britain, Serbia, Spain, Norway, Poland, Romania, Sweden, and Switzerland) participated in this study. The participants completed the Maslach Burnout Inventory-Human Service Survey, the revised version of the Portrait Values Questionnaire, and a survey questionnaire on sociodemographic, work-related factors and the COVID-19 related distress. In general, the lowest mean level of burnout was noted for Romania, whereas the highest mean burnout intensity was reported for Cyprus. Multilevel analysis revealed that burnout at the individual level was negatively related to self-transcendence and openness-to-change but positively related to self-enhancement and conservation values. However, no significant effects on any values were observed at the country level. Male sex, younger age, being single, and reporting higher COVID-19-related distress were significant burnout correlates. Burnout among psychotherapists may be a transcultural phenomenon, where individual differences among psychotherapists are likely to be more important than differences between the countries of their practice. This finding enriches the discussion on training in psychotherapy in an international context and draws attention to the neglected issue of mental health among psychotherapists in the context of their professional functioning.

Van Hoy, A., Rzeszutek, M., Pięta, M., Mestre, J. M., Rodríguez-Mora, Á., Midgley, N., Omylinska-Thurston, J., Dopierala, A., *Falkenström, F.*, Ferlin, J., Gergov, V., Lazić, M., Ulberg, R., Røssberg, J. I., Hancheva, C., Stoyanova, S., Schmidt, S. J., Podina, I. R., Ferreira, N., Kagialis, A., ... Gruszczyńska, E. (2022). Subjective well-being among psychotherapists during the coronavirus disease pandemic: A cross-cultural survey from 12 European countries. *Journal of Psychiatric Research, 154*, 315–323.

The aim of this study is to examine the amount of the total variance of the subjective well-being (SWB) of psychotherapists from 12 European countries explained by between-country vs. between-person differences regarding its cognitive (life satisfaction) and affective components (positive affect [PA] and negative affect [NA]). Second, we explored a link between the SWB and their personal (self-efficacy) and social resources (social support) after controlling for sociodemographics, work characteristics, and COVID-19-related distress. In total, 2915 psychotherapists from 12 countries (Austria, Bulgaria, Cyprus, Finland, Great Britain, Serbia, Spain, Norway, Poland, Romania, Sweden, and Switzerland) participated in this study. The participants completed the Satisfaction with Life Scale (SWLS), the International Positive and Negative Affect Schedule Short Form (I-PANAS-SF), the General Self-Efficacy Scale, and the Multidimensional Scale of Perceived Social Support. Cognitive well-being (CWB; satisfaction with life) was a more country-dependent component of SWB than affective well-being (AWB). Consequently, at the individual level, significant correlates were found only for AWB but not for CWB. Higher AWB was linked to being female, older age, higher weekly workload, and lower COVID-19-related distress. Self-efficacy and social support explained AWB only, including their main effects and the moderating effect of self-efficacy. The results highlight more individual characteristics of AWB compared to CWB, with a more critical role of low self-efficacy for the link between social support and PA rather than NA. This finding suggests the need for greater self-care among psychotherapists regarding their AWB and the more complex conditions underlying their CWB.

Wahlund, T., Hesser, H., Perrin, S., Johansson, S., Huhn, V., Sörhus, S., Lindskog, S., Serlachius, E., Hedman-Lagerlöf, E., Ljótsson, B., & Andersson, E. (2021). Therapist-guided online metacognitive intervention for excessive worry: A randomized controlled trial with mediation analysis. *Cognitive Behaviour Therapy, 51*, 21-41.

Previous studies have found an association between excessive worrying and negative beliefs about worry. It is unclear if change in these beliefs mediate worry reduction. This study aimed to examine (1) if a simplified online metacognitive intervention can reduce worry, (2) whether changes in negative beliefs about worry mediate changes in worry severity, and (3) moderated mediation, i.e., if the mediating effect is more pronounced in individuals with a high degree of negative beliefs about worry at baseline. Adult excessive worriers (N = 108) were randomized to 10-weeks of the online metacognitive intervention (MCI) aimed at reducing negative beliefs about worry, or to wait-list (WL). Outcomes, mediation, and moderated mediation were examined via growth curve modelling. Results indicated a significant reduction in the MCI group ($d = 1.6$). Reductions in negative beliefs about worry and depressive symptoms separately mediated changes in worry severity during the intervention, but in a multivariate test only the former remained significant. Sensitivity analysis indicated that the hypothesized mediation was robust to possible violations of mediator-outcome confounding. The moderated mediation hypothesis was not supported. The results from this randomized trial add to the growing literature suggesting that negative beliefs about worry play a key role in worry-related problems.

Westas, M., Lundgren, J., Andersson, G., Mourad, G., & Johansson, P. (2022). Effects of internet-delivered cognitive behavioral therapy adapted for patients with cardiovascular disease and depression. A long-term follow-up of a randomized controlled trial at 6 and 12 months post treatment. *European Journal of Cardiovascular Nursing, 21*, 559–567.

Internet-based cognitive behavioural treatment (iCBT) has shown positive short-term effects on depression in patients with cardiovascular disease (CVD). However, knowledge regarding long-term effects and factors that may impact the effect of iCBT is lacking. This study sought (i) to evaluate the effect of iCBT on depression in CVD patients at 6- and 12-month follow-ups and (ii) to explore factors that might impact on the effect of iCBT on change in depression at 12-month follow-up. A longitudinal follow-up study of a randomized controlled trial evaluating the effects of a 9-week iCBT programme compared to an online discussion forum (ODF) on depression in CVD patients (n = 144). After 9 weeks, those in the ODF group were offered the chance to take part in the iCBT

programme. The Patient Health Questionnaire (PHQ-9) and the Montgomery-Åsberg Depression Rating Scale-self-rated version (MADRS-S) measured depression at baseline, 9 weeks, 6 months, and 12 months. Linear mixed model and multiple regression analysis were used for statistical computing. The iCBT programme significantly improved depression at 9-week follow-up and this was stable at 6- and 12-month follow-ups (PHQ-9 $p = 0.001$, MADRS-S $p = 0.001$). Higher levels of depression at baseline and a diagnosis of heart failure were factors found to impact the effect of iCBT on the change in depression. A 9-week iCBT programme in CVD patients led to long-term improvement in depression. Higher levels of depression scores at baseline were associated with improvement in depression, whereas heart failure had opposite effect.

Westas, M., Mourad, G., Andersson, G., Neher, M., Lundgren, J., & Johansson, P. (2022). The experience of participating in an Internet-based cognitive behavioral therapy program among patients with cardiovascular disease and depression: A qualitative interview study. *BMC Psychiatry*, 22, 294.

Depression in conjunction with cardiovascular disease (CVD) is associated with worsening in CVD, higher mortality, and poorer quality of life. Despite the poor outcomes there is a treatment gap of depression in CVD patients. Recently we found that an Internet-based cognitive behavioral therapy (iCBT) tailored for CVD patients led to reduced symptoms of depression. However, we still have little knowledge about CVD patients' experiences of working with iCBT. The aim of this study was therefore to explore CVD patients' experiences of engaging in a tailored iCBT program. A qualitative interview study using inductive thematic analysis. Data was obtained from 20 patients with CVD and depressive symptoms who had participated in a randomized controlled trial (RCT) evaluating the impact of a nine-week iCBT program on depression. Three main themes emerged: (1) Taking control of the disease, (2) Not just a walk in the park, and (3) Feeling a personal engagement with the iCBT program. The first theme included comments that the tailored program gave the patients a feeling of being active in the treatment process and helped them achieve changes in thoughts and behaviors necessary to take control of their CVD. The second theme showed that patients also experienced the program as demanding and emotionally challenging. However, it was viewed as helpful to challenge negative thinking about living with CVD and to change depressive thoughts. In the third theme patients reported that the structure inherent in the program, in the form of organizing their own health and the scheduled feedback from the therapist created a feeling of being seen as an individual. The feeling of being acknowledged as a person also made it easier to continuously work with the changes necessary to improve their health. Engaging in an iCBT program tailored for patients with

CVD and depression was by the patients perceived as helpful in the treatment of depression. They experienced positive changes in emotions, thoughts, and behaviors which a result of learning to take control of their CVD, being confirmed and getting support. The patients considered working with the iCBT program as demanding and emotionally challenging, but necessary to achieve changes in emotions, thoughts, and behaviors.

Wiklund, T., Molander, P., Lindner, P., Andersson, G., Gerdle, B., & Dragioti, E. (2022). Internet-delivered cognitive behavioural therapy for insomnia comorbid with chronic pain – a randomised controlled trial. *Journal of Medical Internet Research*, 24, e29258.

Patients with chronic pain often experience insomnia symptoms. Pain initiates, maintains, and exacerbates insomnia symptoms, and vice versa, indicating a complex situation with an additional burden for these patients. Hence, the evaluation of insomnia-related interventions for patients with chronic pain is important. This randomized controlled trial examined the effectiveness of internet-based cognitive behavioral therapy for insomnia (ICBT-i) for reducing insomnia severity and other sleep- and pain-related parameters in patients with chronic pain. Participants were recruited from the Swedish Quality Registry for Pain Rehabilitation. We included 54 patients (mean age 49.3, SD 12.3 years) who were randomly assigned to the ICBT-i condition and 24 to an active control condition (applied relaxation). Both treatment conditions were delivered via the internet. The Insomnia Severity Index (ISI), a sleep diary, and a battery of anxiety, depression, and pain-related parameter measurements were assessed at baseline, after treatment, and at a 6-month follow-up (only ISI, anxiety, depression, and pain-related parameters). For the ISI and sleep diary, we also recorded weekly measurements during the 5-week treatment. Negative effects were also monitored and reported. Results showed a significant immediate interaction effect (time by treatment) on the ISI and other sleep parameters, namely, sleep efficiency, sleep onset latency, early morning awakenings, and wake time after sleep onset. Participants in the applied relaxation group reported no significant immediate improvements, but both groups exhibited a time effect for anxiety and depression at the 6-month follow-up. No significant improvements on pain-related parameters were found. At the 6-month follow-up, both the ICBT-i and applied relaxation groups had similar sleep parameters. For both treatment arms, increased stress was the most frequently reported negative effect. In patients with chronic pain, brief ICBT-i leads to a more rapid decline in insomnia symptoms than does applied relaxation. As these results are unique, further research is needed to investigate the effect of ICBT-i on a larger sample size of people with chronic pain. Using both treatments might lead to an even better outcome in patients with comorbid insomnia and chronic pain.

Zalaznik, D., Strauss, A. Y., Halaj, A., Fradkin, I., Ebert, D. D., Andersson, G., & Huppert, J. D. (2022). Anxious attachment Improves and Is predicted by anxiety sensitivity in internet-based, guided self-help cognitive behavioral treatment for panic disorder. *Journal of Counseling Psychology, 69*, 211–221.

The purpose of this study was to examine whether anxious and avoidant attachment styles improve during guided internet-based cognitive behavioral treatment (ICBT) for panic disorder, and if so, to identify potential theoretically driven mechanisms related to the change. We examined changes in anxious and avoidant attachment and their time-lagged (1 week), longitudinal relationship with panic-related constructs in patients participating in ICBT ($n = 79$) in an open trial. Anxious attachment scores improved significantly with a medium effect during ICBT, $d = 0.76$ [0.45, 1.08]. According to benchmark analyses, changes were similar to the magnitude of change in face-to-face CBT and final scores to values of a nonclinical sample. Additionally, similar to findings in face-to-face CBT for panic disorder, longitudinal time analyses revealed that anxiety sensitivity scores predicted later improvement in anxious attachment scores, but not vice versa. Counter to our hypothesis, avoidant attachment did not significantly change during treatment, $d = 0.15$ [0.02, 0.46]; however, pretreatment level of avoidant attachment in ICBT was similar to the nonclinical sample. Also counter to our hypotheses, agoraphobic avoidant behaviors when alone did not predict changes in anxious attachment. These results suggest that anxious attachment can improve in ICBT for panic disorder even though the focus of the treatment is not on interpersonal relationships. These changes appear to follow changes in anxiety sensitivity.

Åkerman, A.-K. E., Holmqvist, R., Frostell, A., & Falkenström, F. (2022). Effects of mentalization-based interventions on mental health of youths in foster care. *Child Care in Practice, 28*, 536-549.

Knowledge about the development of mental health in young people in foster care is limited. This naturalistic study examined the effects of a relational and mentalization-focused treatment in foster families in Sweden on the placed young people's mental health. The Achenbach System of Empirically Based Assessment (ASEBA) was used to measure change in psychiatric symptoms. Self-ratings showed significant improvements and medium to strong effects after 24 months in both boys and girls. No significant changes were found in the foster parents' ratings or in the school staff's ratings. Foster parents' ratings suggested that girls' behavioral problems decreased, but not the boys'. Based on these findings, we want to emphasize the importance of evaluating treatment effects using self-ratings by the young people in addition to parents' and parent substitutes' ratings.

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