iLab Newsletter
March 2023
https://ilab-psychiatry.nl

## New website and new logo!

The iLab website has a new lay-out, and the iLab has a new logo!

With the help of Jordi Damwichers (https://jordidamwichers.nl/), the iLab staff has been working hard on this new layout and logo. Here you can find the website (https://ilab-psychiatry.nl).

Please note that we still have to update the Employee pages so that information is currently not available. You will receive an announcement when these are also finished.
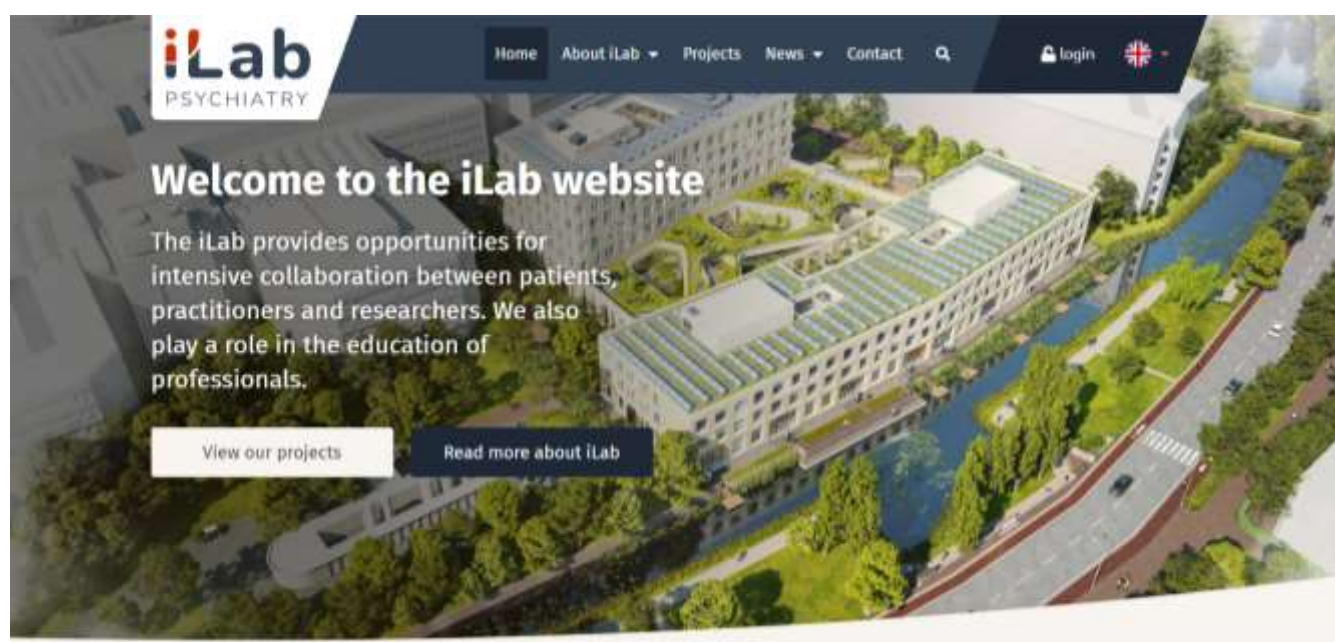
Meeting in the spotlight

The 2023 meeting of the **Belgian-Dutch Network for ESM Research in Mental Health**

On **Thursday 14 and Friday 15 September 2023**, the yearly meeting of the Belgian-Dutch Network for ESM Research in Mental Health will take place in **Groningen**. During this meeting, researchers using ambulatory monitoring in mental health research come together to meet each other, share new research projects and, most importantly, join forces in hackathons and brainstorm sessions. Updates on the program and registration opportunities will be given in upcoming iLab newsletters and on the website soon: https://esm-network.eu/.

Free lecture on EMA in healthcare research

Analyzing active EMA data, April 6 12:30-16:30

The goal of this lecture is to discuss the differences between the analysis of EMA data and the analysis of cross-sectional data, and provide an overview of some commonly used methods for analyzing EMA data. Dr. Smit will discuss the following topics:

Issues and considerations specific to intensive longitudinal data
Advantages and challenges of multilevel models
Analyzing EMA data obtained for a group of participants using multilevel models

conceptualizing and modeling the relation between variables
Dr. Smit will also discuss: (Granger) causality, dynamical systems theory, and real-time analysis

For more information regarding this lectures or if you are interested in the recording of previous lectures (regarding the collection of active/passive EMA data), please e-mail Arnout C. Smit: a.c.smit2@vu.nl

If you would like to sign up for this lecture, please register here.

Recent publications in the spotlight

Van Loo HM, Booij SH, Jeronimus BF. Testing the mood brightening hypothesis: Hedonic benefits of physical, outdoor, and social activities in people with anxiety, depression or both. J Affect Disord. 2023 Mar 15;325:215-223. doi: 10.1016/j.jad.2023.01.017. Epub 2023 Jan 9. PMID: 36632849.

Abstract

Background

Multilevel linear regression models with interaction terms were used to compare the

The mood brightening hypothesis postulates that people with depressive symptoms report more positive affect (PA) and less negative affect (NA) than healthy controls after rewarding daily life activities. Whether mood brightening also occurs in people with anxiety symptoms remains unclear. This study examined effects of physical activity, being outdoors, and social activity on PA and NA across different levels of depression and anxiety symptoms in the general Dutch population.

Methods
Participants completed an electronic diary on their smartphone, thrice daily over 30 days, to assess activities and affect (n = 430; 22,086 assessments). We compared five groups based on their scores on the Depression, Anxiety and Stress Scales: asymptomatic participants, participants with mild symptoms of depression and/or anxiety, depression symptoms, anxiety symptoms, and comorbid depression and anxiety symptoms.

association between activities and affect in these five groups.

Results
All activities were associated with increased PA and reduced NA in all groups. We found a mood brightening effect in participants with depression, as physical activity and being outdoors were associated with reduced NA. Participants with depression had increased PA and reduced NA when in social company compared to asymptomatic participants. No mood brightening effects were observed in participants with anxiety or comorbid depression and anxiety.

Limitations
Our sample included mainly women and highly educated subjects, which may limit the generalizability of our findings.

Conclusion
Mood brightening is specific to depression, and typically stronger when in social company.

Von Klipstein L, Servaas MN, Schoevers RA, van der Veen DC, Riese H, Integrating personalized experience sampling in psychotherapy: A case illustration of the Therap-i module. Heliyon, Volume 9, Issue 3, March 2023, e14507.

Abstract

Background
The experience sampling methodology (ESM) is increasingly being suggested as a clinical tool in mental health care, as it offers ecologically valid, microlevel information on psychopathological processes. Patients and clinicians have recommended that applications of ESM should be personalized and integrated into the existing clinical process, but there is still much uncertainty about how implementation may look like.

Objective
To provide an example of personalized ESM assessment and feedback being integrated into psychotherapy for depression, specifically looking at the collaborative use of ESM in case conceptualization.

Methods
George, a 27-year-old man diagnosed with depression, and his therapist participated in the Therap-i randomized controlled trial, which investigates the efficacy of a personalized ESM module added to psychotherapy. Together, they created a personalized ESM questionnaire, aiming to capture their hypotheses and questions regarding George's case conceptualization. George then filled out his ESM questionnaire five times per day, for 8 weeks. During this period, ESM data were discussed and interpreted by George, his therapist, and a researcher, in three feedback sessions.

In these sessions, data were visualized in a flexible feedback interface that allowed for collaborative exploration of George's data. Both patient and therapist evaluated the module through questionnaires and George also participated in a semi-structured evaluation interview.

Results
George's ESM questionnaire included personalized items on the topics of self-esteem and open versus withdrawn behavior. He completed 241 (89.3%) assessments. Discussions during the feedback sessions focused on two core themes: First, George's low energy level, which was further explored with regard to his sleep, medication, and activity patterns. Second, his low sense of self-esteem, which led to an in-depth exploration of his thinking patterns and social interactions. The ESM module was seen as useful and insightful by both George and therapist.

Conclusions
This case shows how ESM and ESM-based feedback can stimulate the collaborative exploration of the patient's complaints, and how it can provide useful insights for treatment. We discuss how our personalized ESM module relates to current clinical principles and practices, and make suggestions for further implementation.

Call for Papers

Special Issue Call for Papers: Digital Mental Health

SPECIAL ISSUE GUEST-EDITORS:
Søren Dinesen Østergaard and Lasse Hansen, Aarhus University, DK

In recent years, there has been a huge expansion of new digital tools and systems for mental health assessment, intervention, support, prevention, and treatment. Many studies highlight the potential positive uses of digital tools and innovative technologies in this field; however, there are also numerous studies that underline the indiscriminate use of such tools and the need to create effective technological services that are truly mental health oriented.

We are excited to invite you to contribute to this special issue of Acta Neuropsychiatrica.

We welcome both review articles and empirical papers, including submissions from all types of research including epidemiology, mechanisms, brain imaging, immune function, prediction modeling, therapeutic potential, cognition, and regulatory issues. The special Issue is open to any subject area related to understanding the complexity of digital mental health.

Learn more about how to submit here. **Final submissions will be due June 1, 2023.**

All submissions will be peer-reviewed.

Interesting publication

Stephen Tueller, Derek Ramirez, Jessica D. Cance, Ai Ye, Anne C. Wheeler, Zheng Fan, Christoph Hornik and Ty A. Ridenour Power analysis for idiographic (within-subject) clinical trials: Implications for treatments of rare conditions and precision medicine. Behav Res Methods. 2022 Dec 16 : 1–25, doi: 10.3758/s13428-022-02012-1 [Epub ahead of print], PMCID: PMC9757638, PMID: 36526885

Datacamp licence

iLab has a licence for Datacamp. Datacamp is an online e-learning application to learn work with R, python etcetera (see www.datacamp.com). If you are interested in using Datacamp, you can send an e-mail to Marij Zuidersma m.zuidersma@umcg.nl.

Dissertation Herman de Vries

On March 15th 2023, Herman de Vries (TNO Research) defended his dissertation 'Wearable and app-based resilience Modeling in employees - Exploring the possibilities to model psychological resilience using wearable-measured heart rate variability and sleep'

Summary

Stress has a major impact on both an individual and a societal level. Early recognition of the negative impact of stress or reduced resilience can be used in personalized interventions that enable the user to break the identified pattern through timely feedback, and thus limit the emergence of stress-related problems. The emergence of wearable sensor technology makes it possible to continuously monitor relevant behavioral and physical parameters such as sleep and heart rate variability (HRV). Sleep and HRV have been linked to stress and resilience in population studies, but knowledge on whether these relationships also apply within individuals, which is necessary for the aforementioned personalization, is lacking. This thesis introduces a cyclical conceptual model for resilience and four observational studies that test relationships between sleep, HRV and subjective resilience-related outcomes within participants using different types of data analysis at different timeframes. The relationships from the conceptual model and the related hypotheses are broadly confirmed in these studies. Participants tended to have more favorable subjective stress- and resilience-related outcomes on days with a relatively high resting HRV or long total sleep duration. Also, having a resting HRV that fluctuates relatively little from day to day was related to less stress and somatization. However, the strength of the relationships found was modest. The current findings can therefore not yet be directly implemented to initiate meaningful feedback, but they do provide starting points for future research and take a relevant step towards the possible future development of automated resilience interventions.

Upcoming symposia, conferences

24-27 April 2023, Online. Small is beautiful {once more}. The third international N=1 Symposium. The general theme of the symposium will be bringing together the two worlds of single case designs: Single Case Observational Designs (SCODs) and Single Case Experimental Designs (SCEDs).

10-13 May 2023, Berlin, 2º Deutscher Psychotherapie Kongress
25-28 May 2023, Washington, D.C., Association for Psychological Science (APS) Annual Convention
30 May – 1 June 2023, Lausanne, Switzerland, Society for Light Treatment and Biological Rhytms (SLTBR), 34th Annual Meeting
5-7 June 2023, Amsterdam, Society for Ambulatory Assessment (SAA), Conference
21-24 June 2023, Dublin, Society for Psychotherapy Research (SPR), 54th Annual Meeting
14-15 September 2023, Groningen, Belgian-Dutch Network for ESM Research in Mental Health, Annual Meeting *(in the spotlight)*

Please let us know which conferences you have planned to attend so we can update each other!

Recent publications

Bos FM, van der Krieke L, Wichers M, Bruggeman R, Snippe E. Dagboekmetingen als hulpmiddel in de psychiatrische zorg: beloften, valkuilen en mogelijkheden [Ecological momentary assessment as a clinical tool in psychiatry: promises, pitfalls, and possibilities]. Tijdschr Psychiatr. 2023;65(1):54-59. Dutch. PMID: 36734692.

Jeppesen UN, Due AS, Mariegaard L, Pinkham A, Vos M, Veling W, Nordentoft M, Glenthøj LB. Update to the study protocol Face Your Fears: Virtual reality-based cognitive behavioral therapy (VR-CBT) versus standard CBT for paranoid ideations in patients with schizophrenia spectrum disorders: a randomized clinical trial. Trials. 2023 Jan 23;24(1):52. doi: 10.1186/s13063-023-07069-7. PMID: 36691039; PMCID: PMC9872344.

Langener AM, Stulp G, Kas MJ, Bringmann LF. Capturing the Dynamics of the Social Environment Through Experience Sampling Methods, Passive Sensing, and Egocentric Networks: Scoping Review. JMIR Ment Health. 2023 Mar 17;10:e42646. doi: 10.2196/42646.

Schreuder MJ, Groen RN, Wigman JTW, Wichers M, Hartman CA. Participation and compliance in a 6-month daily diary study among individuals at risk for mental health problems. Psychol Assess. 2023 Feb;35(2):115-126. doi: 10.1037/pas0001197. Epub 2022 Dec 19. PMID: 36534413.

Snippe E, Smit AC, Kuppens P, Burger H, & Ceulemans E (2023). Recurrence of depression can be foreseen by monitoring mental states with statistical process control. Journal of Psychopathology and Clinical Science, 132(2), 145–155. https://doi.org/10.1037/abn0000812

Van der Stouwe ECD, de Vries B, Steenhuis LA, Waarheid CO, Jans R, de Jong S, Aleman A, Pijnenborg GHM, Van Busschbach JT. BEATVIC, a body-oriented resilience therapy for individuals with psychosis: Short term results of a multi-center RCT. PLoS One. 2022 Dec 21;17(12):e0279185. doi: 10.1371/journal.pone.0279185. PMID: 36542671; PMCID: PMC9770373.

Van Loo HM, Booij SH, Jeronimus BF. Testing the mood brightening hypothesis: Hedonic benefits of physical, outdoor, and social activities in people with anxiety, depression or both. J Affect Disord. 2023 Mar 15;325:215-223. doi: 10.1016/j.jad.2023.01.017. Epub 2023 Jan 9. PMID: 36632849. *(in the spotlight)*

Von Klipstein L, Servaas MN, Schoevers RA, van der Veen DC, Riese H, Integrating personalized experience sampling in psychotherapy: A case illustration of the Therap-i module. Heliyon, Volume 9, Issue 3, March 2023, e14507. *(in the spotlight)*

Zuidersma M, Müller F, Snippe E, Zuidema SU, Oude Voshaar RC. Feasibility, usability and clinical value of intensive longitudinal diary assessments in older persons with cognitive impairment and depressive symptoms. Aging Ment Health. 2022 Jul 23:1-10. doi: 10.1080/13607863.2022.2102143. Online ahead of print. PMID: 35876158

Share your research news with us!

If you know any topics you think might be of interest to the iLab newsletter please share them with us!

iLab rooms (UCP)

If you want to reserve an iLab room to conduct your iLab research you can mail Kitty Huysman: ilab-psychiatry@umcg.nl for instructions to get access to the Google reservation calendar.

Contact

iLab staff

Harriëtte Riese:	h.riese@umcg.nl (head of iLab)
Kitty Huysman:	ilab-psychiatry@umcg.nl (equipment, room reservations, newsletter)
Klaas Wardenaar:	k.j.wardenaar@umcg.nl (statistical advice)
Marij Zuidersma:	m.zuidersma@umcg.nl (methodological & statistical advice, iLab website)
Robert Schoevers*:*	r.a.schoevers@umcg.nl (head of UCP)
Sanne Booij:	s.h.booij@umcg.nl (PRoSPECTs project)

Unsubscribe newsletter: send an email to: ilab-psychiatry@umcg.nl