

Supplementary Material 1 – eHealth Literacy Instruments

Instrument Name	Author/Creator (Year)	Number of Items	Construction/Dimensions Measured	Reference No.
Digital Health Literacy Instrument (DHLI)	van der Vaart & Drossaert (2017)	21 + 7 performance-based items	Operational skills, navigation skills, information searching, evaluating reliability, determining relevance, adding self-generated content, protecting privacy	26
eHealth Literacy Assessment Toolkit (eHLA)	Karnoe et al. (2018)	96	A total of 7 tools, 4 health-related and 3 digitally-related, comprise the validation version of eHLA (compare to Table 1). The 4 health-related tools are functional health literacy (tool 1), self-assessed health literacy (tool 2), familiarity with health and health care (tool 3), and knowledge of health and disease (tool 4). The 3 digitally-related tools are familiarity with technology (tool 5), technology confidence (tool 6), and incentives for engaging with technology (tool 7).	24
eHealth Literacy Questionnaire (eHLQ)	Kayser et al. (2018)	35	covering (1) using technology to process health information, (2) understanding of health concepts and language, (3) ability to actively engage with digital services, (4) feel safe and in control, (5) motivated to engage with digital services, (6) access to digital services that work, (7) digital services that suit individual needs	27
eHealth Literacy Scale (eHEALS)	Norman & Skinner (2006)	8	Ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem	15
eHealth Literacy Scale-Extended (eHEALS-E)	Petric et al. (2017)	8		22
Health Literacy Skills Instrument (HLSI)	McCormack et al. (2010).	25	Identifying and understanding health-related text, 2) Interpreting information and/or data in the form of tables, charts, pictures, symbols, maps, and video, 3) Completing computations, 4) Making inferences based on the information presented or applying information to a specific scenario, 5) Utilizing the Internet/computer to obtain health information	28
Health Literacy Skills Instrument – Short Form (HLSI-SF)	Bann et al. (2012)	10		29
Transactional eHealth Literacy Instrument (TeHLI)	Paige et al. (2019)	18	The TeHLI consists of four correlated scales that measure functional, communicative, critical, and translational eHealth literacy	30

Supplementary Material 2 - Study Background PE³PP

Aspect	Details
Project Name	Development, Piloting, and Evaluation of an App-Supported Psychosocial Prevention Intervention (German acronym: PE ³ PP).
Funding	German Federal Ministry of Labor and Social Affairs
Duration	October 2021 - October 2026
Objective	Promoting and strengthening participation in working life through a secondary app-based prevention intervention being developed, piloted and evaluated called 'RV Fit Mental Health'.
Target Group	The intervention explicitly focused on mental health problems related to or exacerbated by the work environment, such as affective disorders, phobic and other anxiety disorders, adjustment disorders, somatoform disorders and burn-out.
Research Design	Three-stage parallel mixed-methods design investigating the development (Stage 1), piloting (Stage 2), and evaluation (Stage 3) of the 'RV Fit Mental Health' intervention.
Intervention Components	A two-week initial inpatient phase and a twelve-week training phase supported by the 'Minddistrict' app and therapeutic support provided via the app.
App Functionalities	Provides various content and modules of the intervention, including exercises, instructions, training, and seminar content in text, video, and audio formats; ensures a digital connection between participants and clinic staff
App Classification	Minddistrict app is classified as a 'medical app' for the intervention RV Fit Mental Health
Study Protocol Publication	Published under: Stephan J, Gehrmann J, Stullich A for the PE ³ PP study group, et al. Development, piloting and evaluation of an app-supported psychosocial prevention intervention to strengthen participation in working life: a study protocol of a mixed-methods approach. BMJ Open 2024;14:e081390. doi: 10.1136/bmjopen-2023-081390
Research Team	Technical University of Munich, TUM School of Medicine and Health, Chair of Social Determinants of Health
Intervention Participants	Expected 1020 participants from September 2023 to September 2026
Collaborating Partners	German Pension Insurance Central Germany, AOK PLUS, Median Klinik Bad Gottleuba, SRH Medinet Burgenlandklinik
Ethical Approval	Ethical approval obtained from the Ethics Committee at the TUM School of Medicine and Health (2022-523 S-SR; 2023-316 S-SB).
Study Registration	Trial registration numbers DRKS00030818 and DRKS00033080

Supplementary Material 3 – Code Tree

Level of Category	English Code	German Original	Number of Codings
1	Display of Expertise	Ausweisung der Expertise	
1.1	Biography	Biographie	11
1.2	Connection to the Subject Matter Expertise	Expertise-Verbindung zum Gegenstand	24
2	Demand for an assessment instrument such as the eHLUS	Bedarf für ein Erhebungsinstrument, wie die eHLUS	
2.1	Challenges Regarding the Survey	Herausforderungen bzgl. Erhebung	5
2.2	Identified Need	Bedarf gegeben	20
3	Dimensions of an eHealth literacy tool in the context of medical apps	Dimensionen eines eHealth Literacy Instrumentes im Kontext medizinischer Apps	10
3.1	Abilities / Competencies / Knowledge	Fähigkeiten / Kompetenzen / Wissen	
3.1.1	Everyday Integration	Alltagsintegration	3
3.1.2	Digital/Media Competence/Technical Affinity	Digitale/Medien Kompetenz/Technikaffinität	20
3.1.3	Health Literacy	Gesundheitskompetenz	13
3.1.4	Data Privacy / Trust	Datenschutz / Vertrauen	5
3.2	Requirements	Voraussetzungen	
3.2.1	Predictors	Prädiktoren	
3.2.1.1	Language Level	Sprachniveau	1
3.2.1.2	Socio-economic Status	Sozioökonomischer Status	5
3.2.1.3	Educational Status	Bildungsstatus	6
3.2.1.4	Gender	Geschlecht	5
3.2.1.5	Age	Alter	8
3.2.2	Acceptance of the Digital Health Application Format	Akzeptanz des Angebotsformats digitale Gesundheitsanwendungen	8
3.2.2.1	Expectations	Erwartungen	2
3.2.2.2	App/Application Support	App/Anwendungs-Support	3
3.2.3	Social Environment	Soziales Umfeld	12
3.2.4	Access/Availability of Technology	Zugang/Verfügbarkeit von Technik	4
3.3	Motivation	Motivation	8
3.3.1	Burdens of Disease	Krankheitslast	6
3.3.2	Readiness for Behavioral Change	Bereitschaft für Verhaltensveränderung	10
3.3.3	Self-Efficacy	Selbstwirksamkeit	8
3.3.4	Comprehensibility/Manageability	Verstehbarkeit/Handhabbarkeit	11
3.3.5	Personal Benefit	Persönlicher Nutzen	8
4	Criteria for the Context-Specific Instrument	Kriterien für das kontextspezifische Instrument	
4.1	Representation of the Instrument	Darstellung des Instrumentes	5
4.2	Multidimensionality	Multidimensionalität	6
4.3	Scope/Length	Umfang/Länge	
4.3.1	Unspecified	unspezifiziert	2
4.3.2	Specified	spezifiziert	7
4.4	Threshold Analysis	Schwellenwert-Analyse	3
5	Challenges for Digital Applications	Herausforderungen für digitale Angebote	14
<i>Total Numbers of Coding</i>			253

Supplementary Material 4 – Adapted G-eHEALS Items

Item Typ	Added to eHLUS	Item Text
Original G-eHEALS Item No. 2	Yes	Ich weiß, wie ich das Internet nutzen kann, um Antworten auf meine Fragen rund um das Thema Gesundheit zu bekommen.
Original G-eHEALS Item No. 4	Yes	Ich weiß, wo im Internet ich nützliche Gesundheitsinformationen finden kann.
Original G-eHEALS Item No. 6	No	Ich bin in der Lage, Informationen, die ich im Internet finde, kritisch zu bewerten.
Modified Item No. 6	Yes	Ich bin in der Lage, Informationen, die meine Gesundheit betreffen, kritisch zu bewerten.
Original G-eHEALS Item No. 7	No	Ich kann im Internet zuverlässige von fragwürdigen Informationen unterscheiden.
Modified Item No. 7	Yes	Ich kann im Internet zuverlässige von fragwürdigen Informationen sowie Quellen unterscheiden.

Supplementary Material 5 – Framework of the Expert Interviews

Category	Details
Aims and Relevance of the Interviews	To understand the use and challenges of medical apps (Med-App) in the context of eHealth literacy, assessing the need for an eHealth literacy tool among Med-App users.
Research Questions	What is the demand for assessing the eHealth literacy of Med-App users by healthcare practitioners and researchers? What competencies, skills and prerequisites are necessary for effective use of Med-App in addition to eHealth literacy? What features should an eHealth literacy assessment tool have to support healthcare practitioners' decisions regarding Med-App prescriptions?
Sampling	Eleven experts were interviewed. Inclusion criteria: Medical professionals (physicians, psychologists, psychotherapists) who recommended or prescribed Med-Apps for disease management, health promotion, or prevention. In addition, experts from health research, especially in the fields of eHealth and eHealth literacy, as well as experts from health policy. Exclusion criteria: People with experience in other digital health technologies, such as wearables, those who did not directly prescribe or recommend Med-Apps, and non-health professionals.
Recruitment	Several professional societies, health services research teams, and professional associations were contacted for recruitment, and the research team actively sought potential candidates.
Interview Period	Conducted between July and October 2023.
Methodology	Semi-structured interviews based on Helfferich's principles with a pre-tested guide. The transcribed interviews were evaluated using content analysis according to Mayring. ^{43,46}
Execution	Online via video conferencing, averaging 30 minutes per interview.
Data Analysis	Transcribed audio recordings analyzed using qualitative content analysis in MAXQDA 2022, with both deductive and inductive categories.
Ethical Considerations	Ethical approval obtained from the Ethics Committee at the TUM School of Medicine and Health (2022-523 S-SR; 2023-316 S-SB).
Data Protection	Data were stored on the Leibniz Supercomputing Center server, with access limited to individuals involved in the PE ³ PP project's scientific support. The data's use was restricted to this study, with no third-party disclosure. No sensitive data were collected.
Publication of Methodology	The planned method has been published under: Stephan J, Gehrmann J, Stullich A for the PE ³ PP study group, et al. Development, piloting and evaluation of an app-supported psychosocial prevention intervention to strengthen participation in working life: a study protocol of a mixed-methods approach. BMJ Open 2024;14:e081390. doi: 10.1136/bmjopen-2023-081390

Supplementary Material 6 - Characterization of the Participants in the eHLUS Pre-test

Person	Gender	Age Range	Employment Status
1	Female	20-25	Student
2	Female	40-44	Administrative Employee
3	Male	60-64	Chairman of the Staff Council
4	Male	35-39	Consultant in Healthcare
5	Female	50-54	Radiology Assistant