Oeben M, Krewer AM, Noack M. Consequences of healthcare coaching for long-term unemployed individuals with health restrictions. *Health Psychology Research.* 2025:e81240018.
https://doi.org/10.14440/hpr.0121

Research Article

Consequences of Healthcare Coaching for Long-Term Unemployed Individuals with Health Restrictions

Melanie Oeben*, Ann Marie Krewer, Michael Noack

SO.CON Institute, Faculty of Applied Social Sciences, Niederrhein University of Applied Sciences, 41065 Mönchengladbach, North Rhine-Westphalia, Germany

Keywords: Health coaching, Long-term unemployment, Social innovation, Consequence research, Evaluation

Health Psychology Research

Vol. X, 2025

Background

Individuals experiencing long-term unemployment and health restrictions often face compounded challenges that negatively impact their health status, health-related behaviors, and overall living conditions. Traditional intervention strategies frequently fall short in addressing the complex needs of this population.

Objective

This study investigates the consequences of an innovative health coaching approach tailored to the specific needs of long-term unemployed individuals with health limitations. It focuses on the outcomes related to health status, behavioral changes, and broader living conditions.

Methods

A mixed-methods design was employed, integrating quantitative data and qualitative insights within a funnel model to enable a comprehensive and nuanced analysis. This approach facilitated the exploration of both measurable outcomes and subjective experiences of participants.

Results

Findings suggest that the health coaching intervention had generally positive consequences on participants' health status and health-related behaviors. However, substantial and sustainable improvements in living conditions remained limited without continued engagement and the application of adaptive strategies. The study also demonstrates the value of consequences research as a viable and insightful alternative to traditional impact research within the social sciences.

Conclusion

The research underscores the potential of tailored health coaching interventions to positively influence the lives of long-term unemployed individuals with health restrictions. It advocates for sustained, adaptive approaches to enhance long-term outcomes and recommends the use of longitudinal and flexible research designs in future studies. The findings further position consequences research as a meaningful tool for evaluating complex social interventions.

1. INTRODUCTION

This article presents the Regional Prevention Centre Viersen (RPV) project findings. The project places a particular emphasis on addressing precarious living conditions, long-term unemployment, and health impairments that hinder individuals from re-entering employment. Within the scope of the project, a health-oriented coaching approach was developed and evaluated. This healthcare coaching approach aims to support long-term unemployed

***Corresponding author:**
Melanie Oeben
SO.CON Institute, Faculty of Applied Social Sciences, Niederrhein University of Applied Sciences, 41065 Mönchengladbach, North Rhine-Westphalia, Germany.
Email: melanie.oeben@hs-niederrhein.de

individuals with health impairments in improving their participation in society and integration into the primary labor market. The project was scientifically evaluated by the SO.CON Institute of Niederrhein University of Applied Sciences. Using a triangulated mixed-method design, consequences of the project for the participants and the job center's structures were investigated from a constructivist research perspective. These consequences relate to both intended and unintended consequences.[1]

First, the initial conditions of the project are outlined, followed by an examination of its potential as a social innovation. Subsequently, the theoretical foundations underlying both the coaching methodology and the evaluation design are explored. After presenting the evaluation framework, the findings are reported and subjected to a critical analysis, including a discussion of the opportunities and limitations of healthcare coaching within the broader context of health and employment promotion.

1.1. UNEMPLOYMENT AND HEALTH

The adverse impacts of unemployment on both physical and mental health,[2] as well as health behavior,[3] are recognized and empirically supported. Meta-analyses have consistently shown that unemployed people face higher risks of experiencing mental and physical health challenges, premature mortality,[4] and chronic diseases[5] compared to those who are employed. Employment serves as a significant indicator of an individual's overall well-being, encompassing both physical and mental health. Various mechanisms have been identified through which employment positively influences mental health, including the provision of a structured daily routine, opportunities for social interaction, and a sense of fulfillment derived from participating in society.[6]

Furthermore, the duration of unemployment plays a crucial role in determining its impact on health and health behavior.[3] Health behavior, in this context, encompasses aspects such as physical activity, dietary habits, alcohol consumption, and smoking. Unemployment not only correlates with a lower subjective health status but also with more negative health behaviors.[7] Individuals with low socioeconomic status and those experiencing health problems face barriers to physical activity.[8] In contrast, prior health problems and adequate support can facilitate people's participation in health-promoting behaviors.[9]

The unemployment rate in Germany is currently 6%.[10] About a third (34.9%) are long-term unemployed individuals (for more than a year).[11] At the same time, this target group is difficult to reach for conventional labor promotion programs.[12] For this reason, the German government enacted the Prevention Act in 2015 with the aim of strengthening the intersectional cooperation between health promotion and labor promotion.[13] Within this framework, the funding line RehaPro was developed to support projects with innovative approaches to health promotion for long-term unemployed people with health restrictions.[14] One such project under the RehaPro initiative is the RPV project.

1.2. CONTEXT AND BACKGROUND OF THE PROJECT

The establishment of a regional prevention center in the district of Viersen was initiated by the local job center in response to internal findings related to the medical evaluations of health-related employability among long-term benefit recipients. Approximately 50% of these assessments, conducted by the district health office or occupational health service, identified temporary health impairments. While these impairments adversely affected clients' capacity to work, they were assessed as potentially reversible through timely and targeted preventive interventions. Such impairments frequently hinder job center clients from re-entering the labor market. The evaluations highlighted that early tertiary prevention measures could mitigate further health deterioration and, in some cases, facilitate recovery, thereby improving the affected individuals' long-term prospects for societal participation. However, resource limitations prevented the implementation of these recommended measures, which often require highly individualized, health-oriented coaching and support. Consequently, many long-term unemployed individuals experienced a progressive decline in their health, resulting in prolonged periods of reduced employability and a subsequent deterioration in their overall quality of life.

In response, the job center established the RPV. Grounded in an expanded understanding of health that encompasses the entirety of an individual's living conditions, a health-oriented coaching approach titled "health care coaching" was developed and implemented. This procedure drew, among other sources, on Ruger's[15] health capability framework. Within the job center, a new professional role–the health care coach–was created, operating independently of regular advisory services such as job placement or employment-oriented case management. These coaches work without imposing sanctions and with smaller client-to-coach ratios to provide individualized coaching and support. The primary aim is not immediate integration into the labor market but rather the improvement of clients' health and overall living conditions. The concept of "living conditions" employed in this project is drawn from the capability approach and is used in accordance with Sen's[16] definition. The term focuses on "what life we lead and what we can or cannot do, can or cannot be. I have elsewhere called the various living conditions we can or cannot achieve our "functionings," and our ability to achieve them, our 'capabilities.'"[16(p.23)]

1.3. THE RPV PROJECT AS A SOCIAL INNOVATION

The following paragraph discusses the extent to which the establishment of the regional prevention center in the district of Viersen and the design of its health care coaching approach can be considered as social innovations.

In general, social innovations refer to novel social approaches or organizational structures aimed at providing profound and sustainable solutions to the diverse challenges faced by society.[17] More specifically, social innovations can be understood as novel combinations of ideas and distinct forms of collaboration that transcend established institutional contexts with the effect of empowering and (re) engaging vulnerable groups either through the innovation process or as a result of it.[18]

The health coaching concept within the RPV project incorporates three specific aspects of innovation:

(i) The primary aim of the coaching is to improve the health status of participants, thereby fostering their long-term reintegration into the primary labor market and enhancing their opportunities for societal participation.
(ii) The coaching is conducted in a sanction-free environment, contrasting with the typically sanction-oriented support system of the job center.
(iii) The health care concept employed in the health coaching integrates four theoretical dimensions, offering an

innovative linkage between individual and contextual factors by combining person-centered and environment-focused activities.

The theoretical foundations underpinning the evaluation framework for the scientific assessment of the project, as well as the operational concept of the health coaching, are detailed in the next section.

1.4. THEORETICAL FOUNDATIONS OF THE PROJECT AND THE SCIENTIFIC PROCESS EVALUATION

The subject of the scientific evaluation is the innovative approach to healthcare coaching for long-term unemployed people in the RPV project, which was defined as a concept for working with people in challenging life and health situations. It encompasses methods and techniques aimed at expanding health-related opportunities for participation through structural interventions, while also enabling people to use these opportunities through personal empowerment.[19]

The theoretical framework of the RPV project is structured across four interconnected levels, as illustrated in Figure 1.

Antonovsky's salutogenesis model[20] is operationalized through the capability approach,[21] which is further contextualized by the concept of social space orientation[1;22] and integrated with motivational interviewing.[23]

1.4.1. THE SALUTOGENESIS MODEL

Antonovsky's salutogenesis model[24] has been increasingly established for health promotion in a variety of areas[25] and was included in the most recent Health Promotion Glossary, released in 2021 by the World Health Organization.[26] It adopts a resource-oriented perspective, focusing on the origins and maintenance of health while exploring ways to promote and improve it. Salutogenesis contrasts with the deficit-oriented pathogenesis *model*, which centers on the causes of disease and defines health as the absence of illness. In the salutogenic framework, health is understood as a dynamic process–a continuum between complete health and illness–shaped by stressors and coping factors. A central concept in this model is the sense of coherence,[20] which enables individuals to maintain their health and navigate their lives even in challenging circumstances. Antonovsky identifies stressors as potential burdens originating from internal (endogenous, e.g., stressful life events) or external (exogenous, e.g., environmental influences) sources. When individuals possess sufficient coping resources, they can resolve stressful situations, thereby reinforcing their sense of coherence. Otherwise, persistent stress increases the risk of illness. Antonovsky categorizes coping resources into four types: personal (e.g., self-esteem), physical (e.g., stable health), social (e.g., supportive relationships), and material (e.g., financial means) resources.[20] These resources develop in relation to the living conditions experienced by individuals.

1.4.2. THE CAPABILITY APPROACH

The capability approach,[21] underpins the second theoretical level. Over the past two decades, it has played an influential role in advancing the paradigm shift toward more comprehensive and patient-centered healthcare practices. In the last decade, it has gained recognition as a valuable theoretical framework for understanding disability and has been increasingly applied in various health and social care settings. Recently, researchers have suggested using it as a unifying framework to promote collaboration across disciplines in the area of health promotion.[27] The capability approach focuses on the resources available to individuals and their overall living conditions. Unlike models that locate health solely within a person's internal resources, the capability approach emphasizes the interplay of internal and external factors, such as housing conditions, that shape health. The approach conceptualizes two central dimensions of individual capabilities for societal participation: functionings and capabilities. Functionings refer to the states or activities a person can achieve, such as education or adequate nutrition. Capabilities, on the other hand, represent the real opportunities available to achieve these functionings, encompassing external conditions (e.g., access to healthcare) and internal abilities (e.g., sensory perception). Nussbaum[28,29] proposed a list of ten core capabilities as minimum requirements for a fulfilling life. Building on this framework, Ruger[15] introduced the concept of health capability, which was recently used to analyze the most common causes of death in the United States and urgent public health issues.[30] It defines health as a fundamental capability to be healthy.[15] This capability is considered essential for a dignified and fulfilling life, encompassing societal structures, individual resources, and competencies.

[1] The concept of social space orientation, as understood in the present context, has thus far been addressed exclusively in German-language literature. This paper represents the first attempt to introduce the concept into the international academic discourse. Consequently, the references related to this concept are in German.

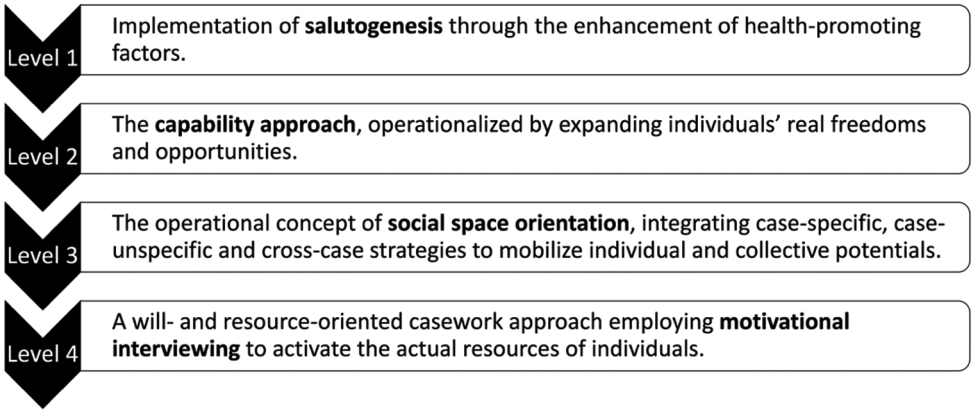

Figure 1. The four theoretical levels of evaluation in the Regional Prevention Centre Viersen project

1.4.3. SOCIAL SPACE ORIENTATION

The capability approach is further applied through the concept of social space orientation,[22] which seeks to design support arrangements enabling individuals to manage their health in ways they choose. Social space orientation prioritizes the interplay between individuals and their environments, focusing on both internal capacities and external conditions. This approach is guided by the principle of aligning social work with individuals' will and resources while considering their socio-spatial conditions. It encompasses enhancing the internal space of individuals through a focus on their interests, abilities, and life plans, as well as improving their external space–including access to affordable housing, functional infrastructure, and community services.[31] To facilitate this, the health care coaches also operate in a non-case-specific or structural manner–meaning they explore health-related resources within their designated planning area, independent of individual client cases. Through this process, they acquire knowledge about available health resources within this region, which they can subsequently apply in a case-specific manner–namely, in individual coaching and support. This enables them to assist individuals in developing and implementing strategies to improve their health (for more information, see Hinte[22]).

Health Care Coaches adhere to five methodological principles of social space-oriented work, which are (i) alignment with individual interests and will. (ii) support for self-initiative and self-help, (iii) focus on personal and socio-spatial resources, (iv) cross-sectoral and target group-oriented perspectives, and (vi) cooperation and coordination.[22]

1.4.4. MOTIVATIONAL INTERVIEWING

The person-centered methodology of motivational interviewing[23] aligns with the principle of will-oriented health care coaching. The concept of will-orientation differs between the social space orientation approach and motivational interviewing. In the social space orientation approach, will-orientation extends beyond supporting decision-making in the face of behavioral ambivalence. Rather, it aims to assist individuals in discovering how they wish to live their lives.[32] In contrast, motivational interviewing was developed as a method for addressing the challenges that arise when one seeks to elicit or strengthen another person's motivation for change.[22] The motivational interviewing approach is particularly suitable for individuals grappling with ambivalence about behavioral change, such as: "I want to exercise more, but after putting my children to bed, I need to rest." Motivational interviewing supports individuals in navigating such ambivalence, enabling them to make informed decisions regarding behavioral changes. Meta-analyses demonstrate that motivational interviewing yields statistically significant average intervention effects across various health-related behaviors when compared to standard care or no intervention.[33] Notable effect sizes have been observed in areas such as substance use, physical activity, oral hygiene, body weight regulation, treatment adherence, readiness to change, and mortality.[33] Evidence suggests that motivational interviewing's effectiveness is primarily attributable to the targeted reinforcement of patients' own verbalizations concerning potential behavioral change.[33] Thus, it is not the practitioner who argues for change, but the patient, as this approach is specifically developed to evoke these arguments.[34]

The integration of these four theoretical dimensions forms the foundation for the health coaching approach within the RPV project and its process evaluation.

2. METHODOLOGY

In the original project design, the scientific process evaluation of the RPV project focused on an examination of the different project components and their impact on people with different characteristics, including age, gender, and health status.[19] For this purpose, an experimental study design was developed. However, due to the COVID-19 pandemic and the associated contact restrictions during the initial phase of project implementation, as well as additional methodological challenges in the collaboration between research and practice, the experimental evaluation design was adjusted. This could not be achieved without significantly compromising the scientific quality and validity of the evaluation results. To ensure the project's outcomes are evident, a consequences research concept was developed.

2.1. ADAPTED EVALUATION DESIGN

The evaluation design is grounded in the approach of consequences research.[35] In contrast to certain positions in the literature that regard consequence research as an independent discipline of basic research,[35] this conceptualization situates it within the context of scientific evaluation. While evaluation and consequences research share a focus on the implementation of interventions and their consequences, the latter diverges by not primarily assessing the extent to which a measure achieves its intended objectives. Instead, it examines and highlights the diverse, including unintended, consequences arising from social support interventions.[1]

The consequences of project participation are analyzed not only from the evaluators' perspective but also from the viewpoints of the target group and practitioners. Through a dialogical process aligned with the principles of communicative validation,[36] in which the study's findings are presented to the participants, the identified consequences of project participation are collectively reflected upon to reconstruct the underlying mechanisms of action.

Using the concept of "consequences" offers the advantage of avoiding or reinterpreting theoretically loaded concepts such as "effects" or "impact." However, it also has the drawback of lacking a clear definition within the social sciences. To address this ambiguity, the project adopted a socio-ecological understanding of consequences, distinguishing between personal, relational, and institutional dimensions.

2.2. RESEARCH QUESTION AND HYPOTHESES

The formative and summative evaluation of the RPV project investigates the resulting personal, relational, and institutional consequences of project participation through the following research question: What are the perceived consequences of the RPV project from the perspective of the participants and the practitioners? To address this research question, the following hypotheses were tested:

(i) H_1: Project participation is positively associated with participants' health status.
(ii) H_2: Project participation is positively associated with participants' health behaviors.

(iii) H_3: Project participation is positively associated with participants' living conditions.

2.3. DATA SOURCES

The consequences of project participation were examined based on the theoretical conceptualizations of the evaluation design, operationalized through specific mixed-methods instruments for data collection.

Antonovsky's salutogenesis model was operationalized by recording the participants' internal and external resources using activity plans.[2] In addition, the level of the sense of coherence was assessed through a standardized computer-assisted telephone interviewing (CATI) survey.[3] The Oxford CAPabilities questionnaire-Mental Health (OxCAP-MH) inventory, including all individual items as specified by Łaszewska *et al.*,[37] was also used in the CATI survey. This psychometric instrument made it possible to systematically assess the individual capability dimensions of the participants. These include aspects such as psychological well-being, independence, social relationships, housing, and work. In addition, the subjective perspectives and experiences of the project participants with regard to their living conditions and state of health were recorded in qualitative in-depth case studies.[4] The open, narrative approach enabled additional facets and contextual information to be obtained that may not have been taken into account in standardized procedures. Development sheets[5] were used to assess the participants' physical and mental state and openness to coaching from the coaches' perspective, and to document the three most important coaching topics of the respective session. The professional observations and assessments of the healthcare coaches were included in the data collection. To evaluate the implementation of the social space-oriented project approach, expert interviews[38] and qualitative double interviews[6] were conducted with the health care coaches.

By triangulating[39] these different survey methods and perspectives, the aim was to comprehensively visualize participants' living conditions and health status. On this basis, differentiated insights into the consequences of project participation were gained.

2.4. DATA ANALYSIS

An analytical model was developed to systematically examine the consequences of project participation, integrating data from various collection instruments. The model followed a funnel-shaped logic, sequentially analyzing and interrelating the collected data. The analysis began with data from two collection points of the CATI survey. A stratified, time-comparative analysis was conducted based on the following criteria:

(i) Gender (categories: female, male; the "diverse" category was excluded for data protection reasons).
(ii) Age group (18–49 years [age group 1]; over 50 years [age group 2]).
(iii) Planning region (PR; PR1: Viersen, Schwalmtal, Niederkrüchten; PR2: Brüggen, Nettetal, Grefrath, Kempen, Tönisvorst, Willich).

In addition, the participants' activity plans and development sheets were evaluated in an aggregated form to comprehensively characterize the target group and contextually integrate the results of the subsequent in-depth analyses. In addition, the double interviews on the social space approach were analyzed in an aggregated form to include the perspective of the health coaches. Finally, a selection of seven cases was made for more in-depth case analyses using the mixed purposive sampling procedure.[40] The selection was based on theoretical considerations and empirical criteria and includes cases that were particularly relevant to the research question under investigation.[7] These cases were analyzed in detail using qualitative case studies and by integrating the CATI data, activity plans, and development sheets to gain in-depth insights into the participants' individual circumstances. Figure 2 shows the funnel model.

2.5. INTERPRETATION OF RESULTS

To systematically analyze the consequences derived from empirical data, Bronfenbrenner's socio-ecological model[41] was used as a heuristic framework. This model, which links individual and contextual factors, aligns well with the underlying coaching concept and evaluation design, and was recently proposed to adapt for application in health interventions.[42] The socio-ecological model differentiates between interrelated system levels:

(i) Microsystem (personal consequences): Individual-level changes, including physical, behavioral, and reflective consequences, as well as shifts in material resources.

[2] These were target agreements between the health care coach and the participant in which internal and external resources were recorded, among other things. Survey period: 11/2021–12/2023; $n = 186$.

[3] Standardized questionnaire that recorded health status, influences on health status, health behavior, goals, and demographic information at two measurement points. The survey was conducted using a computer-assisted telephone interview. Survey period: 10/2020–12/2023; $n = 86$.

[4] The in-depth case studies were used to analyze the subjective consequences of participating in the project from the participants' perspective. Survey period: 07 and 08/2023; $n = 7$.

[5] In the development sheets, the health care coaches documented the three most important topics of the respective coaching session (behavior-related work), the mental and physical state of health, and the openness of the participant to the coaching. Full survey, survey period: 01/2023–12/2023; $n = 279$.

[6] With qualitative double interviews, the implementation of the relationship-related project component and its link to the behavior-related component was surveyed. A double interview was conducted with each of the health care coaches who were jointly responsible for a social space. Survey period: 04/2023; $n = 4$.

[7] Further selection criteria: at least one case per health care coach, at least one case per sampling stratum.

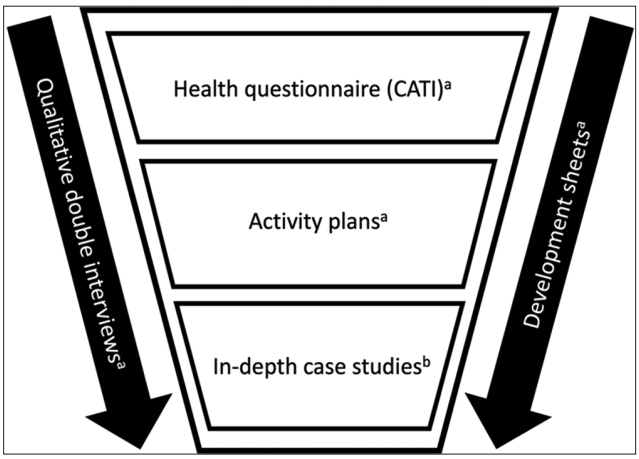

Figure 2. Funnel model
Note: [a]Cross-case analysis; [b]Person-related analysis.
Abbreviation: CATI: Computer-assisted telephone interviewing.

(ii) Mesosystem (relational consequences): New social connections and institutional affiliations that can strengthen social resources, as defined by Antonovsky.[20]
(iii) Exosystem (institutional consequences): Potential changes in internal processes and workflows within the job center in the district of Viersen.

Figure 3 illustrates the comprehensive analytical and interpretative model.

2.6. ETHICAL CONSIDERATIONS

Ethical considerations were detailed in the participant information and consent form, which was provided to participants before data collection. All participants provided their written consent. The form assured participants of the confidentiality of their data and explained that participation was entirely voluntary and could be terminated at any time without the need to provide a reason or fear of negative consequences. The study was approved by the Niederrhein University of Applied Sciences. No formal reference number was assigned to the study.

To protect participant confidentiality, all data were initially pseudonymized to enable the linkage of data across various instruments and subsequently anonymized to ensure full data protection. The data were stored on encrypted servers maintained by the university. Participants were informed that they could withdraw their consent at any time before anonymization by contacting either the principal investigator or the university's data protection team.

The data from this study are not publicly available due to data security reasons that ensure the privacy of the participants. The anonymized data supporting the findings of this study are available upon request from the corresponding author.

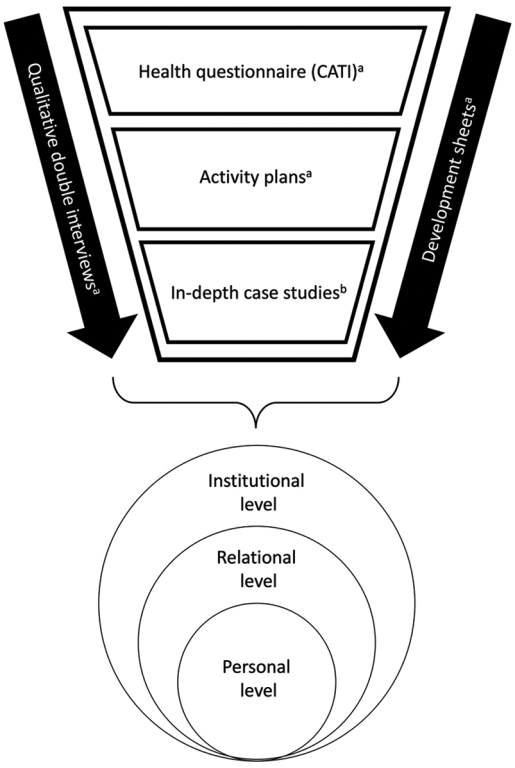

Figure 3. Analytical and interpretative model
Note: [a]Cross-case analysis; [b]Person-related analysis.
Abbreviation: CATI: Computer-assisted telephone interviewing.

3. RESULTS

In the evaluation of project consequences following the funnel logic approach, descriptive and bivariate analyses of data obtained through the CATI survey were initially conducted across participants and over time. Data for both measurement points were available for $n = 86$ participants, who were included in the longitudinal analyses.

The descriptive analysis encompassed frequency distributions, mean values, and their standard deviations, serving primarily to characterize the sample. Regarding the sample composition, 32 participants (37.21%) identified as female, 53 (61.63%) as male, and one person (1.16%) as diverse. Age distribution revealed that 50 participants (58.14%) were in age group 1, while 36 (41.86%) belonged to age group 2. Spatially, 44 participants (51.16%) were allocated to PR1, and 42 (48.84%) to PR2. The average duration of project participation at the second data collection point was 22.97 months (standard deviation = 11.81).

The bivariate analysis utilized Chi-squared tests to investigate potential significant differences in mean values between the two measurement points across the following domains: (i) Health status (variables: general, psychological, and physical health status), (ii) health behavior (variables: Weekly consumption of alcohol, smoking, drug use, changes in these behaviors since the initial survey, daily movement, and sports activity within the past 12 weeks), and (iii) living conditions (variables: all items from the OxCAP-MH).[37,43]

No statistically significant differences were observed in the mean values of the variables measuring health status and health behavior between the two time points. However, positive trends were noted across these domains.

In addition, Chi-squared tests were conducted to evaluate whether significant differences existed between the two time points in the mean values of the overall OxCAP-MH score and its individual items. In the total sample, the standardized overall score at time point 1 was 62.50. At time point 2, a slight but non-significant improvement to 65.63 was observed.

A stratified analysis revealed slight, non-significant improvements at time point 2 across all strata. Table 1 provides an overview of the overall scores for the stratified sample groups.

In the bivariate analysis of the individual items, slight but non-significant improvements were observed across all items in both the total sample and the stratified groups. Exceptions to this were the item "How suitable or unsuitable is your accommodation for your current needs?", where no change was identified, and the item "How likely do you think it is that you will experience discrimination?", where a significant improvement was identified in the "planning area" stratum for PR1 ($\chi^2 = 10.833$, degrees of freedom= 4, p=0.029). Figure 4 illustrates the mean item scores at time points 1 and 2.

Further bivariate analysis of CATI survey data tested for correlational relationships between the duration of project participation (in months) and (i) health status, (ii) health behavior, and (iii) living conditions.

Pearson correlation analysis revealed no statistically significant relationships between project participation and variables representing health status. Similarly, no significant relationships were found between project participation and health behavior, except for a significant correlation between project participation duration and an improved ability to bathe or dress independently ($r = 0.212$, p=0.025).

Table 1. Oxford CAPabilities questionnaire-Mental Health total scores in the sample strata

Time points	Gender		Age group		Planning region	
	Female	Male	1 (18–50 years)	2 (>50 years)	1[a]	2[b]
1	60.94	62.50	60.94	64.06	62.50	60.94
2	64.06	65.63	62.50	65.63	67.19	64.04

Note: [a]Viersen, Schwalmtal, Niederkrüchten; [b]Brüggen, Nettetal, Grefrath, Kempen, Tönisvorst, Willich.

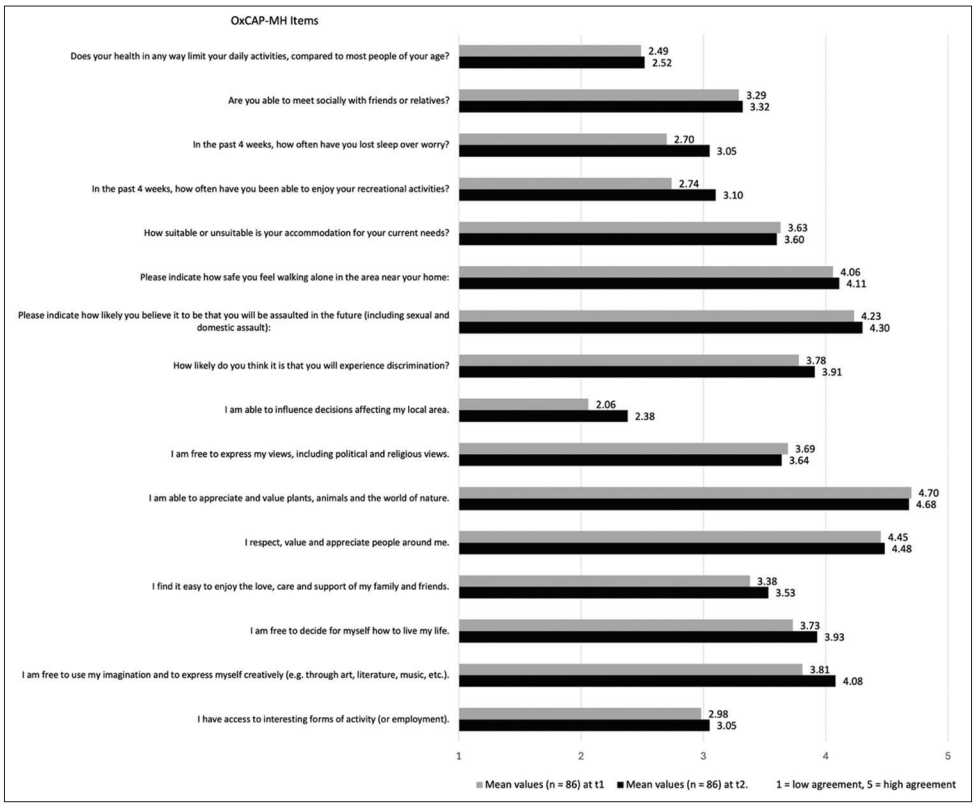

Figure 4. Oxford CAPabilities questionnaire-Mental Health scores. Mean scores of items at time point 1 (t1) and time point 2 (t2) for the total sample.

In the subsequent bivariate analysis, Pearson correlation analyses were conducted to examine the extent to which project participation (in months) correlated with the levels of the individual OxCAP-MH items. Significant correlations were identified for the item "I am able to appreciate and value plants, animals, and the world of nature." (r = −0.375, p<0.001) and the item "I respect, value, and appreciate people around me." (r = −0.225, p=0.019). No significant associations between project participation and the other items were observed.

In the next step of the funnel logic, categories derived from cross-participant analysis of activity plans–such as "improvement of physical and psychological health," "specialist medical treatments," "improvement in health behavior," and "participation in health and support services–"were used to contextualize the CATI survey results. These categories indicate that most participants' daily lives were marked by multiple challenges and significant health impairments. To explore these findings further, data from participants' development sheets were analyzed under the categories of "physical health status," "psychological health status," "health behavior (nutrition, sports/movement, substance use)," "specialist medical treatments," and "referral to health services." In addition, the mean values of physical and psychological health status were examined on scales assessed by practitioners. These analyses identified evidence of slight positive changes in health status and health behavior across the examined categories and scales.

In the final step of the funnel logic model, findings from in-depth case studies were integrated with insights derived from other data collection instruments. When asked about changes experienced during the project, six participants confirmed noticeable changes, while two participants reported no changes. Improvements cited included specific psychological and physical progress, as well as the initiation of professional support, such as rehabilitation services, contact with medical professionals, and the commencement of psychotherapy. Barriers to change were primarily attributed to high scheduling demands or a lack of available appointments with health-related social services, as well as the absence of referrals to these services. Conversely, positive changes were linked to helpful information and support provided by health counselors, who facilitated access to health-related social services and accompanied participants to appointments.

After an initial interpretation of the results by the evaluation team, two workshops were held, one with participants and one with practitioners, to discuss and refine the evaluation team's interpretations in the sense of "communicative validation".[44] Communicative validation is a quality assurance strategy in which research findings are presented to the participants who contributed to their development,

to verify that the results accurately reflect their intended meanings.[36]

During the workshops, the evaluation team presented their interpretative proposals to the participants and practitioners. For each proposal, three questions were posed. Question 1 addressed the extent to which the participants and practitioners agreed with each proposal. Questions 2 and 3 aimed to identify the underlying mechanisms driving the observed outcomes. The group discussions were audio-recorded, and a manual written record was taken simultaneously.

The results of the group discussions were thematically analyzed based on the consequences and their mechanisms.[45] Thematic analysis comprises a collection of methods with several common characteristics, including practices for coding and theme development,[46] which were the primary focus of this analysis step. Furthermore, thematic analysis is regarded as a theoretically flexible approach rather than a rigorously constrained methodology.[46] For this purpose, an anonymized transcript of the discussions was created and supplemented with the manually recorded notes. The results were subsequently synthesized to derive the final set of consequences.

4. DISCUSSION

The introduction posed the question of which perceived consequences, in terms of health status, health behavior, and living conditions, result from the project, and what opportunities and limitations health coaching may present in this context. The study tested three hypotheses:

(i) H_1: Project participation is positively associated with participants' health status.
(ii) H_2: Project participation is positively associated with participants' health behavior.
(iii) H_3: Project participation is positively associated with participants' living conditions.

Based on the study's findings, all three hypotheses must be rejected, and the corresponding null hypotheses accepted. However, this does not imply that the project had no consequences.

Evaluation findings reveal that this coaching generates consequences across multiple domains, including health, self-development, life scenarios, social network integration, and the job center, comprising a complete set of consequences. These consequences are underpinned by mechanisms and frameworks tailored to the individual needs of participants.

4.1. HEALTH

The stabilization–and in some cases, slight improvement–of participants' health status is particularly noteworthy given their prolonged unemployment. Research confirms that extended unemployment typically leads to deteriorating health, both physically and psychologically.[3] In contrast, the findings here suggest that the coaching functioned as a protective mechanism. This supports the results of Mayer and Hollederer,[2] who emphasized the role of personalized interventions in maintaining health among unemployed individuals. Moreover, the participants' improved health literacy and broader understanding of health align with the salutogenesis approach, which highlights health as a resource that can be developed even under adverse conditions. Mittelmark *et al.*[25] affirm that interventions based on the salutogenesis model, when combined with strong relational components, can significantly promote subjective well-being. In this project, the holistic, trust-based coaching relationship likely created a secure environment for change, as also highlighted by Hollederer and Jahn[9] in their evaluation of labor-market-integrated health programs.

4.2. LIVING CONDITIONS

The stabilization of participants' living conditions also emerged as a positive consequence of the coaching. With consistent, trust-based support from health care coaches and the strengthening of coping strategies, participants were better able to actively shape their circumstances and reported increased life satisfaction. Many shared that they were progressively organizing their lives according to their own preferences and felt less dependent on external conditions. This can be attributed to the structured yet flexible nature of the coaching, which emphasized holism[27] and participants' health. As a result, participants experienced a reduction in perceived stress and an enhancement in overall life satisfaction. A key mechanism behind these improvements was the creation and strengthening of social networks,[47] which contributed to the long-term positive development of participants' living conditions.

4.3. SELF-DEVELOPMENT AND PSYCHOLOGICAL STABILITY

Participants frequently reported increased self-esteem, a stronger sense of agency, and improved stress management. This echoes findings by Gedikli *et al.*,[6] who found that personalized and socially embedded interventions can buffer the psychological consequences of unemployment. Importantly, the ability of participants to identify and value small achievements appears to play a role in stabilizing their self-concept–a dynamic also recognized in extended work by Lippke and Gan[48] on health behavior change as a slow, context-dependent process.

4.4. SOCIAL INTEGRATION AND SUPPORT SYSTEMS

One key mechanism behind the improvements observed is the strengthening of social networks. Coaching facilitated access to formal and informal resources, enabling participants to build connections that mitigated isolation–often a significant barrier in long-term unemployment.[47] These findings are consistent with recent research on social inclusion in disadvantaged populations,[8] which highlights the importance of low-threshold, community-based access to health-promoting environments. Furthermore, the coaching supported not only individual coping but also participants' active engagement with institutions such as job centers and healthcare providers. This dual effect–individual stabilization and institutional trust-building–was also observed by Hollederer and Jahn,[9] who underline the importance of non-punitive, person-centered formats in fostering constructive participation in institutional processes.

4.5. INSTITUTIONAL AND ORGANIZATIONAL EFFECTS IN THE JOB CENTER

Beyond individual impacts, the project evoked institutional changes within the job center. Participants' increased openness and trust allowed for greater engagement with

the services offered by the job center, while the coaching format itself led to cross-departmental innovation (e.g., the walk and talk model). These changes demonstrate the potential of health coaching not only as an individual support tool but also as a means for organizational learning and innovation–a dimension often underexplored in health interventions.[12]

4.6. UNINTENDED CONSEQUENCES

Participants generally became more reliable and exhibited a greater willingness to engage in everyday activities, such as going for walks or trying new things. The coaching had a stabilizing and holistic impact, enhancing participants' overall enjoyment of life.

4.7. LIMITATIONS AND CONSIDERATIONS

While outcomes are promising, it is important to acknowledge the limitations. Many participants faced deeply entrenched multi-problem situations. As Wei *et al.*[7] point out, vulnerable populations with precarious employment histories tend to encounter systemic barriers to behavioral change. The slight improvements in health and well-being observed may therefore reflect the early stages of a longer change trajectory. In addition, the relatively short interval between data collection points may have limited the detection of more substantial effects.

4.8. FUTURE RESEARCH SUGGESTIONS

Future studies should employ longer-term designs and consider incorporating control groups to clarify causal relationships. Furthermore, it would be beneficial to explore how specific coaching components (e.g., motivational interviewing, social space orientation) contribute to individual and structural outcomes over time.

5. CONCLUSION

This study investigated the consequences of project participation for participants' health status, health behavior, and living conditions. It tested three specific hypotheses (i) H_1: Project participation is positively associated with participants' health status, (ii) H_2: Project participation is positively associated with participants' health behavior, and (iii) H_3: Project participation is positively associated with participants' living conditions.

Although all three hypotheses were rejected in favor of the null hypotheses, the study demonstrated that participation in health coaching was associated with positive consequences. The findings underscore the importance of sustained health coaching, particularly in addressing the challenges associated with long-term unemployment and complex health- and life-related issues. Furthermore, this study demonstrated that consequences research serves as a robust alternative to traditional impact research in the social sciences.

ACKNOWLEDGMENTS

The authors would like to thank the participants of the job center in the district of Viersen.

FUNDING

The project is a part of the federal program RehaPro, within the funding area Innovative Approaches to Participation in Working Life (661Z0241X1).

CONFLICT OF INTEREST

The authors confirm that they have no conflicts of interest to disclose.

AUTHOR CONTRIBUTIONS

Conceptualization: Ann Marie Krewer, Michael Noack
Formal analysis: All authors
Investigation: Melanie Oeben
Methodology: Melanie Oeben
Writing–original draft: Melanie Oeben
Writing–review & editing: Ann Marie Krewer, Michael Noack

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study was approved by the Niederrhein University of Applied Sciences. No formal reference number was assigned to the study. All participants provided their written consent. The form assured participants of the confidentiality of their data and explained that participation was entirely voluntary and could be terminated at any time without the need to provide a reason or fear of negative consequences.

CONSENT FOR PUBLICATION

The participants provided their written consent for their data to be published in aggregated form.

DATA AVAILABILITY STATEMENT

The data from this study are not publicly available due to data security reasons that ensure the privacy of the participants. The anonymized data supporting the findings of this study are available on request from the corresponding author.

Submitted: 05 May 2025; Revision received: 18 July 2025; Accepted: 22 July 2025; Published: 07 August 2025

REFERENCES

1. Dollinger, B. Why does social work work? A proposal for a social work understanding of causality. *Br J Soc Work*. 2022;52(3):1474-1491. doi: 10.1093/bjsw/bcab133

2. Mayer D, Hollederer A. What helps the unemployed to stay healthy? A qualitative study of coping with the negative effects of job loss. *J Public Health Res*. 2022;11(1):2492. doi: 10.4081/jphr.2021.2492

3. Silver SR, Li J, Quay B. Employment status, unemployment duration, and health-related metrics among US adults of prime working age: Behavioral Risk Factor Surveillance System, 2018-2019. *Am J Ind Med*. 2022;65(1):59-71. doi: 10.1002/ajim.23308

4. Paul KI, Hollederer A. The effectiveness of health-oriented interventions and health promotion for unemployed people-a meta-analysis. *Int J Environ Res Public Health*. 2023;20(11):6028. doi: 10.3390/ijerph20116028

5. Yildiz B, Schuring M, Knoef MG, Burdorf A. Chronic diseases and multimorbidity among unemployed and employed persons in the Netherlands: A register-based cross-sectional study. *BMJ Open*. 2020;10(7):e035037. doi: 10.1136/bmjopen-2019-035037

6. Gedikli C, Miraglia M, Connolly S, Bryan M, Watson D. The relationship between unemployment and wellbeing: An updated meta-analysis of longitudinal evidence. *Eur J Work Organ Psychol*. 2022;32(1):128-144. doi: 10.1080/1359432x.2022.2106855

7. Wei H, Wang Q, Chen J, Liang Z, Wu Y, Luo H. Social environment, health cognition, and health behavior: How individuals with non-fixed employment end up with adverse health outcomes in China under the era of VUCA?-findings from PLS-SEM and fsQCA. *Front Public Health*. 2024;12:1341213. doi: 10.3389/fpubh.2024.1341213

8. Salmi L, Hasanen E, Simula M, Virmasalo I, Muukkonen P. Perceived barriers to physical activity in the social spaces of low socioeconomic status suburbs. *Wellbeing Space Soc*. 2023;5(2):100164. doi: 10.1016/j.wss.2023.100164

9. Hollederer A, Jahn HJ. Results from a nationwide evaluation study of labor market-integrative health promotion for the unemployed: Impact of the JOBS program Germany. *Int J Environ Res Public Health*. 2023;20(19):6835. doi: 10.3390/ijerph20196835

10. Statista. *Arbeitslosenquote in Deutschland im Jahresdurchschnitt von 2005 bis 2024* [*Unemployment Rate in Germany: Annual Average from 2005 to 2024*]; 2025. https://de.statista.com/statistik/daten/studie/1224/umfrage/arbeitslosenquote-in-deutschland-seit-1995 [Last accessed on 2025 May 24].

11. Statista. *Anteil der Langzeitarbeitslosen an allen Arbeitslosen in Deutschland von 1993 Bis 2024* [*Proportion of Long-Term Unemployed Individuals among all Unemployed Persons in Germany from 1993 to 2024*]; 2025. https://de.statista.com/statistik/daten/studie/17425/umfrage/anteil-der-langzeitarbeitslosen-in-deutschland [Last accessed on 2025 May 24].

12. Dromundo S, Luske M, Tuccio M. *Innovative Approaches to Tackle Long-Term Unemployment*. Paris: OECD Publishing; 2023. doi: 10.1787/e1f7e16e-en

13. Hollederer A. Arbeitsmarkt [labour market]. In: Böhm K, Bräunling S, Geene R, Köckler H, editors. *Gesundheit als gesamtgesellschaftliche Aufgabe: Das Konzept Health in All Policies und seine Umsetzung in Deutschland [Health as a Societal Responsibility: The Health in All Policies Approach and Its Implementation in Germany]*. Wiesbaden: Springer VS; 2020. p. 109-120. doi: 10.1007/978-3-658-30504-8

14. BMAS. *Bundesprogramm Rehapro - Förderprogramm [Funding Programme - Rehapro*]. *Bundesministerium für Arbeit und Soziales [German Federal Ministry of Labour and Social Affairs*]; 2018. Available from: https://www.modellvorhaben-rehapro.de/de/foerderprogramm/projektsuche/projektsuche_formular.html?nn=852348 [Last accessed on 2025 Jun 04].

15. Ruger JP. Health capability: Conceptualization and operationalization. *Am J Public Health*. 2010;100(1):41-49. doi: 10.2105/ajph.2008.143651

16. Sen A. *The Standard of Living: The Tanner Lectures of Human Values*. Cambridge: Cambridge University Press; 1985. p. 1-19. doi: 10.1017/CBO9780511570742

17. BMBF. *Social Innovations*. Available from: https://www.bmbf.de/en/research/society/socialinnovations/socialinnovations_node.html [Last accessed on 2025 Jan 13].

18. Terstriep J, Rehfeld D. Bridging local embeddedness and global dynamics - the economics of social innovation. *Eur Plan Stud*. 2020;28(5):853-863. doi: 10.1080/09654313.2020.1766106

19. HSNR. *Regional Prevention Centre in the District of Viersen- (RPV)*. Niederrhein University of Applied Sciences (HSNR); 2021. Available from: https://www.hs-niederrhein.de/fileadmin/dateien/Institute_und_Kompetenzzentren/SO.CON/Projekt_PDFs/Kurzbeschreibung_RPV_Webseite_englisch_neu.pdf [Last accessed on 2025 Aug 05].

20. Antonovsky A. *Health, Stress, and Coping*. San Francisco: Jossey-Bass; 1979.

21. Nussbaum MC, Sen A. *The Quality of Life*. Oxford: Oxford University Press; 1993. doi: 10.1093/0198287976.001.0001

22. Hinte W. Original oder karaoke - was kennzeichnet das fachkonzept sozialraumorientierung? [Original or karaoke - what characterises the professional concept of social space orientation?] In: Fürst R, Hinte W, editors. *Sozialraumorientierung 40 Das Fachkonzept: Prinzipien, Prozesse and Perspektiven* [*Social Space Orientation 4.0: The Professional Concept - Principles, Processes and Perspectives*]. Vienna: Facultas; 2020. p. 11-26.

23. Miller WR. The evolution of motivational interviewing. *Behav Cogn Psychother*. 2023;51(6):616-632. doi: 10.1017/S1352465822000431

24. Antonovsky A. The salutogenic model as a theory to guide health promotion. *Health Promot Int*. 1996;11(1):11-18. doi: 10.1093/heapro/11.1.11

25. Mittelmark MB, Bauer FB, Vaandrager L, *et al*. *The Handbook of Salutogenesis*. 2nd ed. Cham: Springer Nature Switzerland AG; 2022. doi: 10.1007/978-3-030-79515-3

26. WHO. *Health Promotion Glossary of Terms 2021*; 2021. Available from. https://iris.who.int/bitstream/handle/10665/350161/9789240038349-eng.pdf?sequence=1 [Last accessed on 2025 Aug 05]

27. Van der Veen S, Evans N, Huisman M, Welch Saleeby P, Widdershoven G. Toward a paradigm shift in healthcare: Using the International Classification of Functioning, Disability and Health (ICF) and the capability approach (CA) jointly in theory and practice. *Disabil Rehabil*. 2023;45(14):2382-2389. doi: 10.1080/09638288.2022.2089737

28. Nussbaum MC. Human rights and human capabilities. *Harv Hum Rights J*. 2007;20:21-24.

29. Nussbaum MC. Capabilities as fundamental entitlements: Sen and social justice. *Fem Econ*. 2003;9(2-3):33-59. doi: 10.1080/1354570022000077926

30. Coste M, Prah JJ. Applying the health capability profile: An analytical study of leading causes of death in the USA and of pressing public health issues. *J Epidemiol Community Health*. 2025;79(4):302-310. doi: 10.1136/jech-2023-220573

31. Hinte W, Noack M. Sozialraumorientierte perspektive. Was wollen einsame menschen? [Social space-oriented perspective: What do lonely people want?] In: Noack Napoles J, Noack M, editors. *Handbuch Soziale Arbeit und Einsamkeit* [*Handbook of Social Work and Loneliness*]. Weinheim: Beltz Juventa; 2022. p. 70-90.

32. Reinhard G. *Sozialraumorientierung in der Sozialen Arbeit: Ein Arbeits-und Materialbuch für Studium, Praxis und Lehre* [*Social Space Orientation in Social Work: A Workbook and Resource Guide for Study, Practice and Teaching*]. Stuttgart: Kohlhammer; 2024.

33. Bischof G, Bischof A, Rumpf HJ. Motivational interviewing: An evidence-based approach for use in medical practice. *Dtsch Arztebl Int*. 2021;118(7):109-115. doi: 10.3238/arztebl.m2021.0014

34. Minney S, Childers J. Motivational interviewing in medical training. In: Douaity A, Kelly TM, Gold MA, editors. *Motivational Interviewing: A Guide for Medical Trainees*. Oxford: Oxford University Press; 2023. p. 3-13. doi: 10.1093/med/9780197583876.001.0001

35. Dollinger B, Weinbach H, Coelen T, Munsch C, Rohrmann A. Implikationen der Erforschung von Folgen sozialer Hilfe: Einführende Anmerkungen [Implications of Research into the Consequences of Social Assistance: Introductory Remarks]. In: Weinbach H, Coelen T, Dollinger B, Munsch C, Rohrmann A, editors. *Folgen Sozialer Hilfen: Theoretische und Empirische Zugänge [Consequences of Social Assistance: Theoretical and Empirical Approaches]*. Weinheim: Beltz; 2017. p. 8-16.

36. Mayring P. *Qualitative Content Analysis: A Step-by-Step Guide*. New York: Sage Publications; 2022.

37. Łaszewska A, Schwab M, Leutner E, Oberrauter M, Spiel G, Simon J. Measuring broader wellbeing in mental health services: Validity of the German language OxCAP-MH capability instrument. *Qual Life Res*. 2019;28(8):2311-2323. doi: 10.1007/s11136-019-02187-9

38. Witzel A. Das problemzentrierte interview [The problem-centred interview]. In: Jüttemann G, editor. *Qualitative Forschung in der Psychologie: Grundfragen, Verfahrensweisen, Anwendungsfelder [Qualitative Research in Psychology: Fundamental Questions, Methods, and Areas of Application]*. Weinheim: Beltz; 1985. p. 227-255. Available from: https://nbn-resolving.org/urn: nbn:de:0168-ssoar-5630

39. Caillaud S, Flick U. *Triangulation. Research Methods*

in the Social Sciences: An A-Z of key concepts. HAL Open Science; 2021. Available from: https://hal.science/hal-04078506v1 [Last accessed on 2025 May 06].

40. Nyimbili F, Nyimbili L. Types of purposive sampling techniques with their examples and application in qualitative research studies. *Br J Multidiscip Adv Stud*. 2024;5(1):90-99. doi: 10.37745/bjmas.2022.0419

41. Bronfenbrenner U. *The Ecology of Human Development*. Harvard: Harvard University Press; 1979. doi: 10.4159/9780674028845

42. Yolene G, Ravenell J, Steptoe R, Douglas D, Camille J, Castor C. Socio ecological model (SEM) and diffusion of innovation (DOI) integrated framework: A proposal for integration to improve intervention in the digital age of medicine. *Innov Pharm*. 2024;15(4):1-8. doi: 10.24926/iip.v15i4.6271

43. Simon J, Laszewska A, Leutner E, Spiel G, Churchman D, Mayer S. Cultural and linguistic transferability of the multi-dimensional OxCAP-MH capability instrument for outcome measurement in mental health: The German language version. *BMC Psychiatry*. 2018;18(1):173. doi: 10.1186/s12888-018-1762-3

44. Mayring P. *Qualitative Content Analysis: Theoretical Foundation, Basic Procedures and Software Solution*. Klagenfurt: Austria; 2014. Available from: https://nbn-resolving.org/urn: nbn:de:0168-ssoar-395173 [Last accessed on 2025 Apr 17].

45. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77-101. doi: 10.1191/1478088706qp063oa

46. Braun V, Clarke V. Toward good practice in thematic analysis: Avoiding common problems and be(com)ing a knowing researcher. *Int J Transgend Health*. 2023;24(1):1-6. doi: 10.1080/26895269.2022.2129597

47. Krug G, Prechsl S. Do changes in network structure explain why unemployment damages health? Evidence from German panel data. *Soc Sci Med*. 2022;307:115161. doi: 10.1016/j.socscimed.2022.115161

48. Lippke S, Gan Y. Health behavior change. In: Bennett G, Goodall E, editors. *The Palgrave Encyclopedia of Disability*. Cham: Palgrave Macmillian; 2024. p. 1-16. doi: 10.1007/978-3-031-40858-8_263-1