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Smartphone Survey and Coaching: Testing Occupational Participation in Practise

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Research Aims

The project described below examines how smartphone surveys and coaching can be used effectively in the practice of occupational participation. Therefore, an innovative methodology combining smartphone surveys and face-to-face-coaching was developed. This methodology will be tested in relation to different aspects such as the intensity of use, satisfaction with implementation, and subjective views of usefulness and effectiveness. For this purpose, coaching based on monitoring will be used in two selected examples of occupational participation. Firstly, job-coaching for job-seeking people will be supported and enriched through ambulatory monitoring. Secondly, self-efficacy coaching based on monitoring will be carried out for young people in a German rehabilitative boarding school (BBW), which is specially designed for adolescents and young adults with special needs (e.g. physical and/or psychological illnesses, learning disabilities) and which is described in more detail below. This should provide initial information on the application, opportunities and difficulties associated with the methodology and its implementation in the context of occupational participation.

Methodology

Smartphone surveys are used in keeping with the methodology of ambulatory assessment. Ambulatory assessment means the “use of specialised, today mostly electronic devices, suitable for the field (...) to record self-evaluation data (...) as well as conditions related to the situation and settings of the everyday life of the people being studied” (Fahrenberg, Myrtek, Pawli, & Perrez, 2007, p. 13). Today, smartphones are generally used to present the questionnaires (Kuntsche & Labhart, 2013). Such surveys are used in the project over a longer period of time and are therefore referred to as ambulatory monitoring. Monitoring generally means the “(continuous) observation of a specific system” (Dudenredaktion, 2007, p. 673) and is often applied when using various methods to collect psychophysiological data in situ (Stott, 1982). Nevertheless, the term ambulatory monitoring is used here because of the focus on collecting process data. The advantages of ambulatory assessment and monitoring include the acquisition of real-time data and data close to the time of actual events, the acquisition of less biased information and the increased ecological validity and applicability of the results. Furthermore, feedback for the participants can be generated from these data, and findings concerning individual differences, both those related to a single person and also those between people, and information on processes can be obtained (Bolger, Davis, & Rafaeli, 2003; Fahrenberg, 1996; Hamaker, 2012; Schwarz, 2012). Relevant topics of intervention can also be derived from the monitoring data (Shiffman, Stone, & Hufford, 2008). This is the reason why the smartphone surveys in this project are used as basis for intervention, among other things, especially for face-to-face coaching in an individual setting. For this purpose, the data entered during the monitoring process is individually analyzed and used as a basis for the coaching conversations. The methodology presented here will therefore be referred to in this study as monitoring-based coaching. In this context, coaching is understood as systemic, goal-oriented, solution-focused, person-centered and resource-oriented conversations that promote the participants‘ abilities to organize themselves in their professional and working lives, in adherence to the principle of “Hilfe zur Selbsthilfe“ [helping people to help themselves] (Bachmair, Faber, Hennig, Kolb, & Willig, 2011, p. 21) (Albrecht, 2018; Roundtable of Coaching Associations, 2015). The combination of monitoring-based coaching and classical coaching has advantages over switching to a purely digital

methodology (e.g. ecological momentary interventions in Proudfoot, 2013). For example, the needs of the target group in terms of language and articulateness can be better addressed and relationship-building facilitated (Warschburger, 2009). Overall, it is assumed that the use of monitoring-based coaching can contribute to participation in the coaching itself as well as to participation in the workplace. This is firstly due to the personalization of the intervention content and the stimulation of self-reflection through monitoring, and secondly, the fact that coaching can address and promote job-relevant constructs such as self-efficacy.

The Sub-Project on Self-Efficacy Coaching for Young People in Rehabilitation in BBW

Bandura (1977, 1997) refers to self-efficacy as the depth of conviction in being able to achieve goals through one's own capabilities. It can be fostered by different resources such as experience of success and verbal persuasion. With reference to the target group (e.g. young adults with physical disabilities), self-efficacy seems relevant in finding and keeping a job (Bal, Sattoe, van Schaardenburgh, Floothuis, Roebroeck, & Miedema, 2016). However, there are indications that people with special needs have lower self-efficacy (e.g. Vukman, Lorger, & Schmidt, 2018 for adolescents with learning disabilities). Therefore, it can be concluded in line with the results of Vukman et al. (2018) that it is important to promote self-efficacy in occupational rehabilitation in BBW. As a consequence, innovative, monitoring-based coaching in self-efficacy will be designed and tested for young people in occupational rehabilitation. It was possible to recruit 101 adolescents and young adults from the BBW Rummelsberg for testing purposes. Data from 84 of the participants (M = 20.35 years; 1/3 female) were incorporated into the analysis presented below. Data collection was conducted using a control group design with two experimental groups (ambulatory monitoring combined with coaching; ambulatory monitoring alone) and a passive control group as well as pre/post follow-up measurement. Ambulatory monitoring was conducted over a period of four weeks to collect data three times a day on experiences of success and failure related to performance and social self-efficacy as well as current well-being. This information was always collected using the same, short smartphone questionnaire at each measurement point, whereby a timed alarm reminded people to fill in the questionnaire. Individual graphic evaluations were created for the weekly coaching sessions based on the moni-

toring data, which showed the development of the subjective sense of well-being related to the situations experienced during the respective week (see Figure 1 for an example).

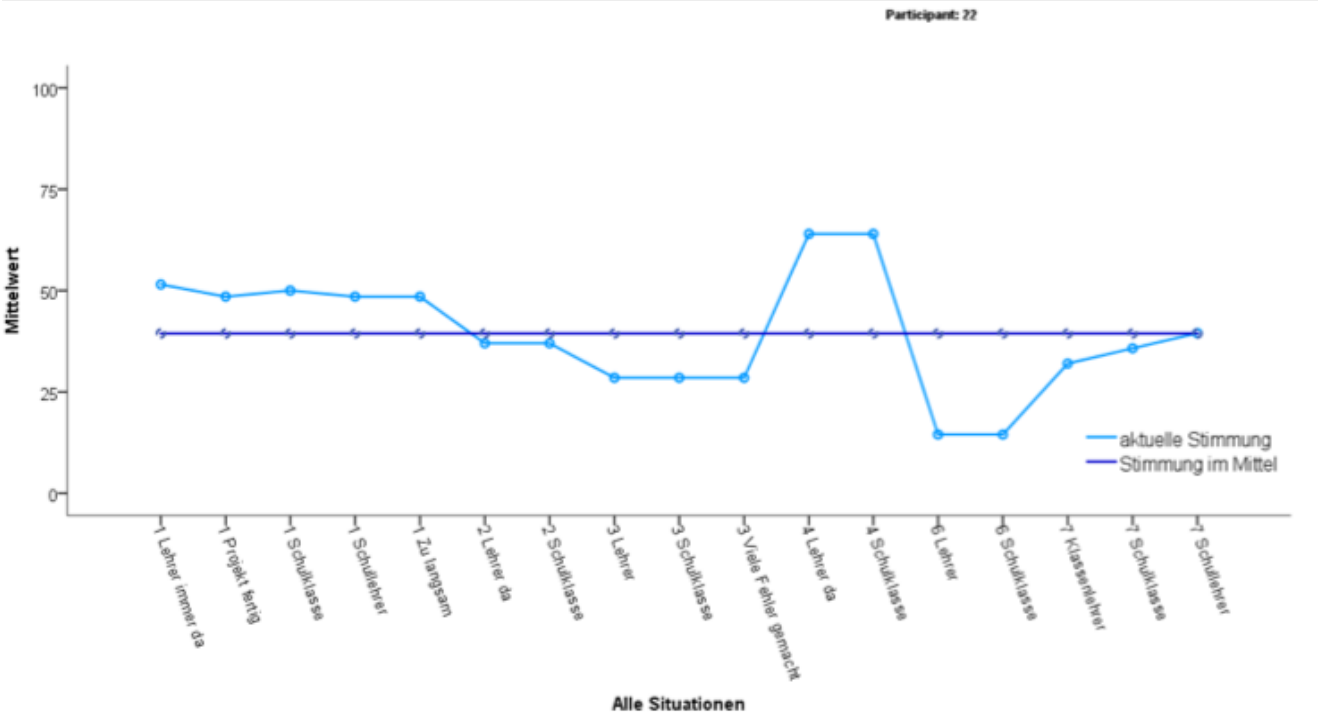

Figure 1: Example of analyzed individual monitoring data of one week (light blue for situational well-being, dark blue for well-being on average)

. The graph provided the basis for the coaching session to work with the participants primarily to identify how they themselves had contributed to the positive outcome of successful situations and, if necessary, to develop possible different approaches where outcomes had been unsuccessful, thereby increasing their self-efficacy. To examine the effectiveness of interventions, pre, post and follow-up measurements were made using paper-based questionnaires to record the degree of performance-related and social self-efficacy, as well as the need for control and well-being as associated constructs (e.g. Amoura, Berjot, Gillet, & Altintas 2014; Botting, Durkin, Toseeb, Pickles, & Conti-Ramsden, 2016). In addition, written feedback from participants on the methodology and its usefulness was requested. Data analysis was carried out using descriptive methods and a multivariate analysis of variance. With regard to the intensity of use, the analyzed sample shows a compliance of 43% in the ambulatory monitoring. Compliance here refers to the proportion of completed questionnaires in relation to the number of potential measurement points with the smartphone switched on. An average of three (SD = 0.76) sessions were attended per person from a total of four coaching sessions. The young people giving feedback were largely satisfied with the imple-

mentation of the methodology. Most of the evaluators considered the monitoring items to be appropriate, but found the alarm frequency of three times a day too high and the total duration of four weeks either reasonable or too long. With regard to the coaching, the frequency and duration were considered as appropriate. The subjectively experienced usefulness was perceived differently by the evaluating participants: while 25% of 51 of them considered the monitoring to be useful, the results for coaching were proportionately higher with 46% of 26 reviewers. The multivariate analysis of variance for comparing the effectiveness of the intervention between groups and pre, post and follow-up measurements, however, revealed no significant interaction effect between group and measurement point ($F(24, 96) = 1.26$, $p > .05$). The discrepancy between identified subjective usefulness and the non-significant inferential statistical results of effectiveness are particularly noticeable. However, not all participants gave feedback on perceived subjective usefulness. For this reason, a follow-up study is being conducted with a special interest in the subjective assessments of usefulness and further success indicators, but also in the factors that influence coaching success. This should provide a more detailed picture of the prerequisites and types of effect of monitoring-based coaching. For this purpose, 27 new young people in rehabilitation were recruited at BBW Rummelsberg. All of them participated in the ambulatory monitoring combined with the coaching sessions analogous to the implementation process described. During data collection, additional quantitative and qualitative information was collected on influencing factors and success indicators. However, this follow-up study has not yet been completed, so it will not be discussed in detail here and no results can be presented yet.

Discussion

An innovative coaching concept is presented here, which combines the advantages of smartphone surveys with those of traditional coaching. A trial of the concept in use as coaching in self-efficacy for young people in rehabilitation with special educational needs shows, in view of the target group, a very satisfying intensity of use of monitoring and coaching. The chosen design was also considered appropriate. Nevertheless, in terms of inferential statistics, the effectiveness of the methodology in increasing self-efficacy and associated variables could not

be substantiated. Subjective perceptions of usefulness, however, encourage a closer look at potential influencing factors and indicators of effectiveness in a follow-up study. In general, the study therefore showed fundamental acceptance of a methodology that not only complies with the digital age, but also allows for further potential applications, such as the consideration of monitoring as a measurement tool and of the resulting information over longer periods of time

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For the web site of the dissertation project

For the results documentation of the dissertation project (Poster and results documentation in German and English language)