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Career Crafting Training Intervention for Physicians: Protocol for a Randomized Controlled Trial

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Abstract

Background: Today's labor market is highly demanding and skills and knowledge tend to be outdated fast. This also applies to the hospital context where ongoing changes affect the work of physicians, challenging their employability (i.e. their ability and willingness to continue working). In this high-pressure environment physicians could benefit from pro-actively managing or crafting their careers, however, they tend not to show this behavior. The new concept of career crafting concerns proactively making choices and adapting behavior regarding both short-term job design (i.e. job crafting), as well as longer-term career development (i.e. career self-management). However, so far, no intervention studies aim at enhancing career crafting behavior among physicians. Given that proactive work and career behavior have been shown to be related to favorable outcomes such as work engagement, well-being, job satisfaction and performance, we designed an intervention to support career crafting behaviour and employability of physicians.

Objective: The objectives of this study were to describe (1) the development, and (2) the design of the evaluation of a randomized controlled career crafting intervention to increase job crafting, career self-management and employability.

Methods: A randomized controlled intervention study was designed for 139 physicians in two Dutch hospitals. The study was designed and will be evaluated using the Intervention Mapping protocol. Participants were randomly assigned to either the waitlist-control group (received no training) or the intervention group. The intervention group received a 4-hour training and worked on four self-set goals. Then, a coaching conversation took place over the phone. Online questionnaires distributed before and eight weeks after the intervention assessed changes in: job crafting, career self-management and perceived employability, and changes in additional variables: job satisfaction, career satisfaction, work-home interference, work ability and performance. In addition, a process evaluation was conducted to examine factors that may have promoted or hindered the effectiveness of the intervention.

Results: Study results are expected to be submitted for publication in the fall 2020.

Conclusions: This study protocol gives insight in the systematic development and design of a career crafting training that is aimed to enhance job crafting, career self-management and employability. This study will provide valuable information to physicians, managers, policy makers and other researchers that aim to enhance career crafting.

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Career Crafting Training Intervention for Physicians: Protocol for a Randomized Controlled Trial

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Abstract

Background: Physicians work in a highly demanding work setting where ongoing changes affect their work and challenge their employability (i.e. their ability and willingness to continue working). In this high-pressure environment physicians could benefit from pro-actively managing or *crafting* their careers, however, they tend not to show this behavior. The new concept of career crafting concerns proactively making choices and adapting behavior regarding both short-term job design (i.e. job crafting), as well as longer-term career development (i.e. career self-management). However, so far, no intervention studies aim at enhancing career crafting behavior among physicians. Given that proactive work and career behavior have been shown to be related to favorable outcomes, we designed an intervention to support career crafting behaviour and employability of physicians.

Objectives: The objectives of this study were to describe (1) the development, and (2) the design of the evaluation of a randomized controlled career crafting intervention to increase job crafting, career self-management and employability.

Methods: A randomized controlled intervention study was designed for 141 physicians in two Dutch hospitals. The study was designed and will be evaluated based on parts of the Intervention Mapping protocol. First, needs of physicians were assessed in 40 interviews held with physicians and managers. This pointed to a need to support physicians in becoming more proactive regarding their careers as well as building awareness of proactive behaviors to craft their current work situation. Based on this, a training program was developed in line with their needs. A number of theoretical methods and practical applications were selected as the building blocks of the training. Next, participants were randomly assigned to either the waitlist-control group (received no training) or the intervention group. The intervention group received a 4-hour training and worked on four self-set goals. Then, a coaching conversation took place over the phone. Digital questionnaires distributed before and eight weeks after the intervention assessed changes in: job crafting, career self-management and employability, and changes in additional variables: job satisfaction, career satisfaction, work-home interference, work ability and performance. In addition, a process evaluation was conducted to examine factors that may have promoted or hindered the effectiveness of the intervention.

Results: Data collection was completed in March 2020. Effect evaluation started in April 2020 and is still ongoing, process evaluation is still ongoing. Study results are expected to be submitted for publication in October 2020.

Conclusions: This study protocol gives insight in the systematic development and design of a career crafting training that is aimed to enhance job crafting, career self-management and employability. This study will provide valuable information to physicians, managers, policy makers and other researchers that aim to enhance career crafting.

Keywords: Career crafting, Job crafting, Career Self-management, Intervention study, Employability, Physicians, Intervention Mapping

Introduction

Physicians work in a highly demanding work setting where ongoing changes affect their work. Physicians' work environment is characterized by high work pressure and other stressors [1]. This challenges physicians' ability and willingness to continue to work until the retirement age in their current profession [2], i.e. their employability [3]. Recent studies show that the employability profile of physicians and other workers in the health care sector is relatively

low compared to employees in other sectors. Specifically, in a study among 42.613 health care workers in the Netherlands, 47% of them perceived career opportunities beyond their current employer, compared to 57% of the employees in other sectors, 52% of health care workers perceive regularly a high physical workload compared to 38% of employees in other sectors, and 19% of the health care workers often perceive a high emotional workload compared to 7% of employees in other sectors [4].

In order for employees to successfully navigate in this complex context, they must proactively take control over their working life by creating a resourceful, healthy and motivating environment for themselves [5]. This can be done through career crafting, which is a relatively new concept in the literature, and is defined as: "*individuals' proactive behaviors aimed at optimizing career outcomes through improving person-career fit*" [6]. Career crafting entails both choices and changes to the current work environment (job crafting), as well as actions focused on the longer-term career design (career self-management) [6]. Job crafting refers to the self-initiated behaviors that employees take to shape, mold, and change their jobs [7-9]. For example, people can craft social resources such as support, or they can optimize tasks or situations that are hindering. An example of job crafting is limiting tasks that drain energy, such as reducing the time spent on meetings with 15 minutes per meeting. Career self-management is defined as the extent to which employees proactively develop their careers as expressed by diverse career behaviors [cf 10]. An example of career self-management is networking behavior, in which someone proactively approaches others that can be helpful in shaping their career. Career crafting entails the combination of both types of behaviors. So, for example, an employee may reduce energy-draining activities (through job crafting) by communicating firmer boundaries in meetings ("I have 30 minutes for this meeting, what are our highest priorities?"). The time thus gained is used to proactively network with someone from another organization (career self-management), that has a position of interest to the employee, to learn about how he managed to get that position.

Career crafting is considered an important individual behavior aimed at safeguarding the sustainability of one's career over time [6]. This suggests that career crafting may possibly enhance employability. However, empirical evidence about the antecedents and consequences of career crafting is lacking and requires further examination [6]. Previous studies have found that career crafting behaviors such as job crafting and career self-management fulfil important roles in contemporary careers and result in beneficial outcomes [11,12]. Previous studies found that career crafting behaviors are beneficial to the individual, as reflected in enhanced work engagement [13], well-being [14], meaningfulness and job satisfaction [15], and to the organization, as reflected in enhanced performance [16]. This makes it worthwhile to invest in an intervention program that enhances physicians' career crafting and employability which is urgent in today's health care career context.

Three gaps exist in the current literature. First, despite the increasing importance of proactive career behaviors, to our knowledge as yet no intervention studies aim at enhancing career crafting. A career adaptability training for graduates [17] focused on facilitating the school-to-work transition, but did not examine how to stay employable within a work context. This study and other existing career interventions have a different focus (e.g. career coaching or counselling) than the subject of our study or show methodological weaknesses [18]. These studies for instance used a cross-

sectional study design [19], lack a control group [20–22], or did not assign participants randomly to a control or treatment group as shown in a meta-analysis of Whiston et al. [23].

Second, career studies mainly focus on employees in general [24], while employees in different jobs have been shown to have different career trajectories and employment opportunities [25]. Attention for physicians' careers is important for two reasons. First, because some studies describe their career choices as serendipitous or circumstantial [26], and mention that physicians are neither actively engaged in career planning nor being stimulated to do so [27,28]. Other studies have shown that attention for careers is beneficial for employee job satisfaction [22] and may help them to keep up with a fast-changing work environment [29]. And second, because physicians' career trajectories are different from those of other employees. Physicians usually finish their medical training around the age of 30, and work as a medical specialist for the next 30–35 years of their career. Although their high level of education may stimulate career possibilities, the specialized nature of their work tends to reduce their employment opportunities and may thus result in physicians often having the same job until retirement [25]. Relevant career opportunities for physicians should therefore not only focus on promotion, since possibilities for this are limited or on external opportunities (e.g. changing jobs or organizations), but also on internal career opportunities (e.g. changing work content or tasks). Attention for physicians' career content, may help physicians in developing coping skills to effectively deal with the challenges presented by their work environment. This seems important as research has shown that some physicians are insecure about their competencies to fulfil non-clinical tasks, such as teaching, managerial and financial skills for which they are not primarily educated [30,31]. The career crafting training developed in this study is likely to fit physicians' needs since their needs are identified and because the content of the training is developed in collaboration with physicians.

Third, most intervention studies mainly focus on the analysis of outcomes and lack a systematic process evaluation [32,33]. This may be partly explained by the absence of an evidence-based framework that describes the elements that need to be included in process evaluations. Nevertheless, process evaluation is important as it helps to understand why (parts of) an intervention result in a certain outcome and shows how research findings can be used to guide practice [32].

In responding to these knowledge gaps, this study makes the following contributions. This study contributes to the literature on proactive career behavior by elaborating on the development and design of the evaluation of a career crafting training intervention. In doing so, the specific needs and challenges that physicians face are taken into account, which increases the practical utility of this intervention. This paper elaborates on the systematic process in which this career intervention is developed for and in collaboration with physicians. Furthermore, the research protocol discusses a framework to conduct a process evaluation, based on the current literature. The objectives of this study are to describe (1) the development, and (2) the design of the evaluation of a randomized controlled career crafting intervention developed for physicians to increase job crafting, career self-management and employability.

Methods

The intervention was developed in a systematic way, using elements of the Intervention Mapping protocol [34]. IM is a widely accepted methodology for planning theory-based and evidence-based health promotion programs [34], and has been used in numerous studies [e.g. 35,36]. Intervention Mapping consists of six steps: 1) needs assessment, 2) definition of program objectives, 3) methods and practical applications, 4) intervention program development and pilot test, 5) adoption and implementation and 6) evaluation. The completion of every step creates a product that is the guide for the subsequent step [34]. Although these steps suggest that this is a linear process, moving back and forth between the steps is part of the process.

Step 1: Needs assessment

The first step of Intervention Mapping was to assess and understand the problem and needs of the participants [34]. This intervention was custom-made in close collaboration with potential participants, physicians, and other stakeholders, such as managers of physicians (who also work as physicians). There is widespread agreement that a participative approach in the design of interventions is promising. Employees are often familiar with the problems and the best solutions in their work context, and people can identify better with a project if they perceive themselves to be the agents rather than the objects of change [37].

In an earlier stage of this study, 40 face-to-face exploratory interviews were conducted to examine physicians' experiences with job crafting, career self-management behavior and employability. 27 interviews were done with the target population, namely physicians, and 13 interviews were conducted with their managers (who also worked as physicians). The results of these interviews were discussed and interpreted by a planning group. This group consisted of the researchers of this study, a senior board member and a physician who also worked as a manager in the academic hospital, and two physicians and a senior board member of the general hospital. The reflections of the planning group were also discussed in both hospitals with people from the HR department, who were familiar with current policies and trainings for physicians. The interviews revealed that physicians lack attention for job crafting and career self-management. Moreover, employability was hardly discussed or thought of in this occupational group. Despite this, physicians and their managers emphasized the importance of finding ways to increase physicians' employability. They described several challenges: dealing with a high workload, rapid technological developments, finding a healthy work-life balance, the need to fulfil non-medical related tasks (e.g. educational tasks, or being part of certain committees) and the repetitive character of their tasks which challenged their motivation in the longer run. Both physicians and managers mentioned that these challenges affected their ability and/or willingness to continue to work in their profession. Some physicians also indicated that support in these areas would be helpful, since attention for these themes was not part of their standard medical training. A career crafting training, which helps them to cope with their current work environment and prepare them for their further career, is therefore expected to be in line with their needs.

Step 2: Definition of program objectives

The next step involved specifying the change objectives. This included what must be changed and who must make the change [34]. These were formulated based on the needs that physicians and managers expressed in step 1. The following three program objectives were chosen: The intervention will increase physicians' 1) job crafting behavior, 2) career self-management behaviors, and 3) employability. Following the intervention mapping approach, three personal determinants were identified to realize behavioral change in order to reach these objectives [38]. These were awareness of the importance of investing in job crafting, career self-management and employability, knowledge about these topics and learning the skills to know how these investments can be made.

Step 3: Methods and practical applications

In the third step, methods and practical applications were chosen to achieve the objectives [34], based on existing literature and the stakeholder interviews. Table 1 (appendix 1) shows the theoretical methods and the practical application for each determinant.

Step 4: Intervention program development and pilot test

Step 4 included a description of the intervention, completed program materials, and program protocols.

The intervention consisted of a 4-hour group training session for diverse groups of physicians with a pre- and post-measure. This half-day was a combination of theory, reflection, exercises and goal-setting (see Table 1, appendix 1). Participants learned the principles of proactive work and career behaviors and all participants left the session with a plan outlining four small actions for the following four weeks.

In order to be successful, the program required pilot testing with intended implementers and recipients [34]. The survey was made and pilot-tested by the first author in four face-to-face interviews with physicians and with managers (who also worked as physicians). A "think aloud" method was used, meaning that participants were asked to think out loud when reading the texts and answering the questions. At the end of the interview, some open questions were asked about the surveys' content, wording and style of addressing physicians. If needed, introduction texts and items were adapted. Then, a list was made including program themes, assignments and a time planning. A training program and protocol was drafted, which was pretested in a pilot training with intended users. Five physicians participated, who varied as much as possible on variables that might affect the variables of interest. They followed the pilot training and evaluated the training at the end in a group discussion on: content, wording, suitability of given examples, and type of exercises. This resulted in optimising the training content through some adaptations in allocated time and wording to make the content better suited to the perspectives of physicians. Moreover, examples of job crafting and career self-management were added based on experiences of physicians.

Step 5: Implementation

In this step, participants were recruited via presentations in physicians staff meetings, word-of-mouth communication in existing networks and promotions of the training via e-mail. An e-mail with information on the intervention (goal, content and duration of the intervention) was sent to the heads of departments, who were asked to share the e-mail with physicians in their team. At the same time, the e-mails were sent to the representatives of physicians, who were

asked to spread the e-mail to physicians in their department. Besides, accreditation was requested and granted. This means that physicians earned accreditation points (professional development points) when participating in this training, which they need to stay registered. This will likely increase physicians' extrinsic motivation to participate in this training.

This intervention study started with randomly assigning participants to the waitlist-control group or intervention group. Two independent randomizations were done using the randomizer function in Excel: one for physicians in the academic hospital that were either assigned to the waitlist-control group or intervention group, and one for physicians in the general hospital that were randomized in a waitlist-control group or intervention group. Two independent randomizations enhanced the probability of equally dividing physicians in one hospital to the control or intervention group. This is important given the expectation that physicians from both hospitals differ on characteristics that might affect their career crafting behavior, such as type of contract and the degree of specialization. The advantage of the waitlist-control group is that all physicians received the intervention in the end. They were blind to the condition (waitlist-control group or intervention group) that they were assigned to.

----- Please insert figure 1 around here -----

Figure 1. Design of the career crafting intervention

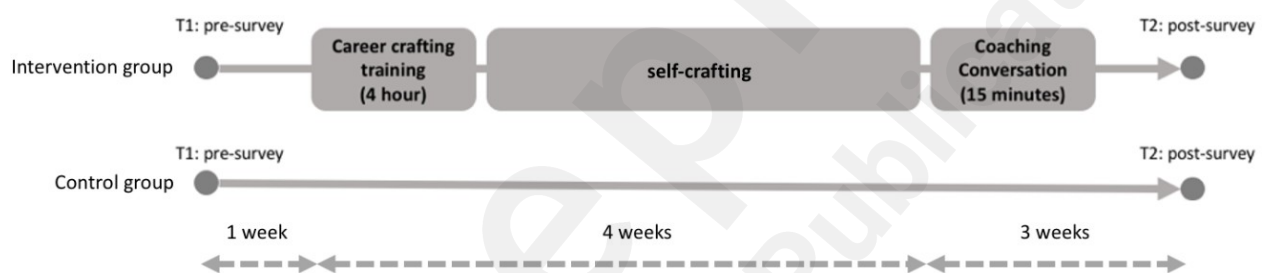


Figure 1 shows the procedure of this experiment. Participants (both intervention and control group) received an e-mail inviting them to complete pre-test (T1). One week after receiving the digital survey (which was sent through the program Qualtrics), physicians in the intervention group received a 4-hour training intervention. Seven to fourteen physicians were planned in each training session. After that, they worked on their self-set goals for the next four weeks. Then, a coaching conversation took place on the phone. Three weeks after the coaching conversation, eight weeks after the pre-test, physicians in both groups received a link to the post-test (T2).

Step 6: Evaluation of the results

Both the effectiveness as well as the implementation process of the career crafting intervention will be systematically evaluated. The effectiveness of the intervention program will be evaluated quantitatively (by analysing the variables of interest). The implementation process of the intervention will be examined through a process evaluation, both quantitatively (by examining the answers to survey items) and qualitatively (by asking for experiences of participants after the coaching session on the phone and in an open-ended question at the end of the last survey).

Effectiveness and outcomes

The effectiveness of the career crafting training intervention will be examined by comparing the intervention and

control group on the outcomes that were gathered in the pre- and post-test. The main outcome measures of this study were job crafting, career self-management behavior, and employability. Perceptions on job crafting towards personal resources were measured (9 items) [39] and job crafting to change work aspects were measured (10 items) [7]. Perceptions on career self-management behavior were measured [10] by examining general career behaviors, career planning, career self-exploration, environmental career exploration, networking, voluntary human capital/skill development, and positioning behavior (9 items). Perceived employability was measured by asking for physicians' willingness, mental and physical ability to continue working in their current profession until the retirement age (3 items) [3]. Additional outcome measures were job satisfaction [40], career satisfaction [41], work-home interference [42], work ability [43] and performance [44]. Additionally, background information was gathered on age, gender, type of employment contract, hours worked according to the contract, organizational tenure and functional tenure. Data from the pre- and posttest of individuals could be linked with unique codes that were generated by the program Qualtrics.

Participants

The sample size was calculated on the basis of 95% power to reject null hypothesis with a two-tailed significant level of 5%. Assigning equal numbers of participants to the intervention and control groups, and based on the effects of job crafting training interventions on job crafting behaviour [45,46] a total of 120 physicians (60 in each group) were needed. We aimed for 150 participants, to allow for 20% drop out. We widely communicated the possibility of participating in this intervention study to physicians as explained in step 5. However, we did not reach all physicians (685 physicians in the academic hospital, and 225 physicians in the general hospital) as we were not invited in all departments of the hospital to give a presentation about the training content. In the end 141 physicians participated, 107 physicians (76%) were employed by the academic hospital and 34 physicians (24%) worked in the general hospital.

Data analysis

Depending on the assumptions for outliers, normality and sphericity, we are planning to conduct two-way repeated measures multivariate analyses of variance (RM MANOVA) in SPSS (V.25) to assess the Time x Group interaction effects of the intervention on main and additional outcome measures. Subsequently, if the tests for assumptions are not violated, we will do repeated measures ANOVAs (RM ANOVA) to examine the effects within the control and intervention groups further.

Process evaluation

A process evaluation will be done during the process of implementing the study, providing insight in factors that may have helped or hindered the effectiveness of the intervention [32]. Despite the lack of an evidence-based framework describing the elements that need to be included in process evaluations [32], three dimensions are often mentioned: 1) context, 2) implementation process and 3) participants mental models and mechanisms [32,47]. The elements examined within these dimensions are described in Table 2 (appendix 2). Both quantitative and qualitative methods will be used to examine these process evaluation elements, since both methods and the combination of them are shown to

be effective [32,37,48].

Ethics

The University Medical Center Utrecht confirmed that this study falls outside the scope of the Dutch Law on Medical Research (WMO) and therefore formal ethical approval was not required (METc 2019, 19/109). Nevertheless, ethical guidelines were applied as follows; All participants signed a written consent form informing that participation is voluntary, outcomes are held confidential, they can withdraw from the study at any time, they were told that they could change their answers (through a back button) before submitting the survey, and they were reminded of this at every contact moment. All study material was anonymized and saved on a protected server.

Results

Data collection was completed in March 2020. Effect evaluation started in April 2020 and is still ongoing. One researcher did the primary analyses, these results are planned to be discussed with the research team in July 2020, which will probably result in some adjustments and/or additional analyses. The process evaluation is still ongoing as the qualitative data, obtained in the coaching interviews, still have to be analysed. Study results are expected to be submitted for publication in October 2020.

Discussion

This article describes (1) the development and (2) the evaluation design of the first career crafting training intervention aimed at increasing job crafting, career self-management behavior and employability of physicians. This study protocol describes the systemic development of the intervention using parts of the Intervention Mapping protocol.

The strengths of this study boil down to three main points. First, this study addresses a novel concept, career crafting, which refers to proactive work and career behaviors that are linked to positive employee outcomes such as well-being and employability. An intervention approach seems timely and relevant given the work and career-related challenges that physicians are facing. The intervention can potentially help them to cope with ongoing changes in their work environment [49] and might enhance the sustainability of their careers over time [6]. In order to fit the intervention's content with physicians needs, needs are assessed in 40 interviews. This needs assessment forms the bases of the intervention program, which is further developed in close collaboration with physicians and other relevant stakeholders (e.g. managers of physicians). Second, a robust research design is used, namely a randomized controlled field experiment, which is a high-quality approach to examine the causal effects of an intervention [50]. The effect and process evaluation help to understand the outcomes of the intervention study and can be used to guide practice [32]. A third strength is that we designed the training to take place in 4-hour sessions, which kept the time investment low. The practical applicability of this study therefore seems high and the training could possibly be administered in an online format as well. Future studies could use this study protocol to examine such an intervention study in other occupational

contexts to gain more insight in the effectiveness of a career crafting training across different contexts with varying cultures.

Apart from the above strengths, this study has some limitations. First, contamination may occur when participants in the intervention group communicate with wait-list-control participants about the content of the training. However, the chances of contamination are small, since physicians are widely spread across the organization. Second, because we use a field-experiment, our control is limited. This means that participants might not adhere to the instructions, might be unable to attend the assigned training, could not complete both surveys, or drop out completely. We deal with these problems by: 1) keeping track of participants that want to change groups, and 2) sending two reminders for completing the survey by e-mail and four reminders to work on the self-set goals after the training by e-mail. A third limitation is that in order to minimize drop-out, we did not include a long-term follow-up measurement. A second follow-up measurement could have revealed the extent to which findings can be generalized across longer time periods.

In conclusion, the systematic development of the intervention based on parts of the Intervention Mapping protocol has resulted in a 4-hour career crafting group training intervention to support physicians in developing proactive work and career behaviors. Subsequent analyses in a follow-up study can provide valuable insights to physicians, managers and policy makers about the interventions' effectiveness for physicians.

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Authors' contributions

All authors conceptualized the research project. EvL coordinated the study and gathered participants. EvL drafted the manuscript together with MvdH. All authors reviewed and provided comments and revisions. EK and TT secured funding for the project. MvdH designed the training content, and pilot tested the intervention together with EvL. All authors read and approved the final manuscript. EvL and MvdH were involved in conducting the intervention.

Conflict of interest

None declared.

Funding

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Appendix 1: Table 1: Theory-based methods and practical applications of the career crafting intervention

Appendix 2: Table 2: Elements of the process evaluation

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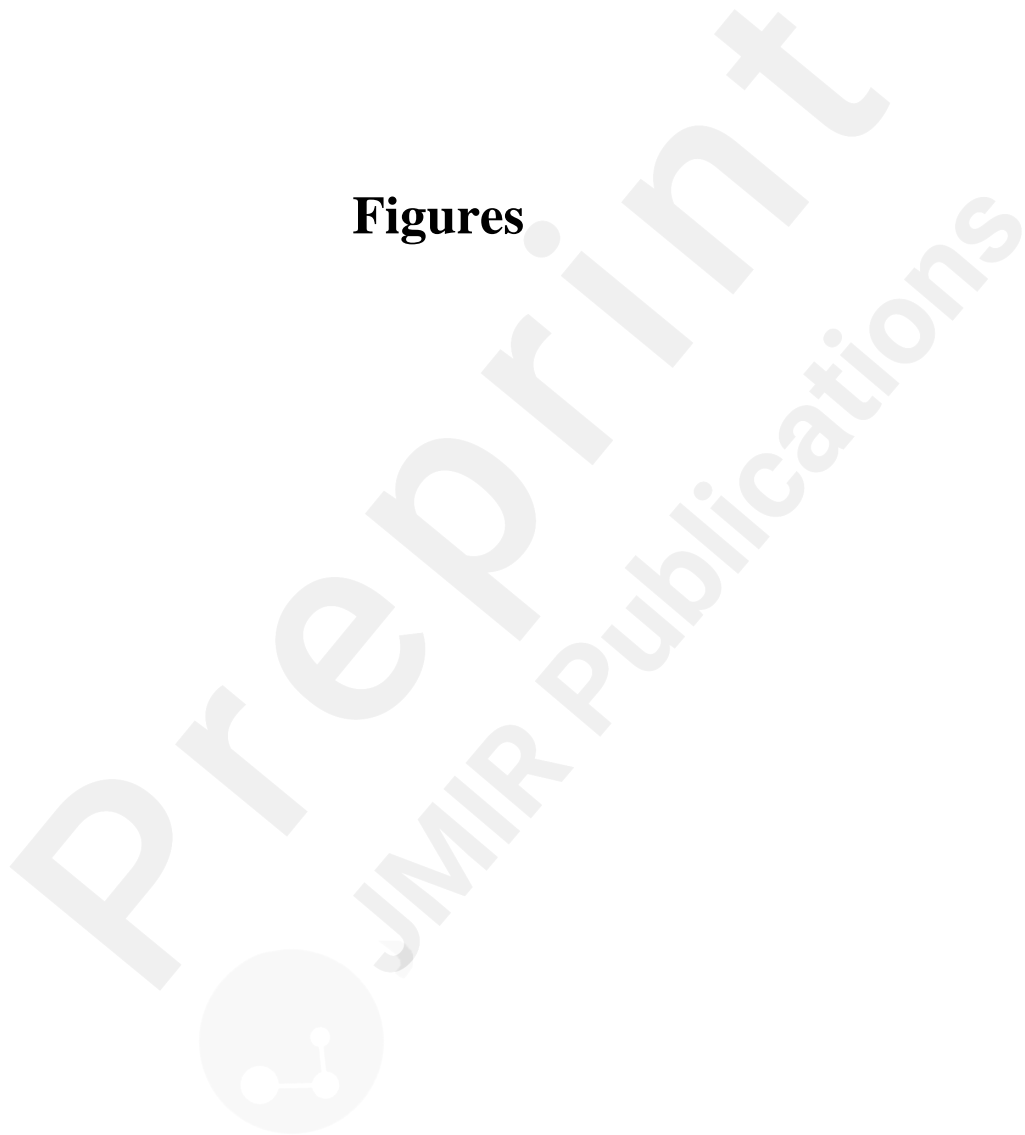
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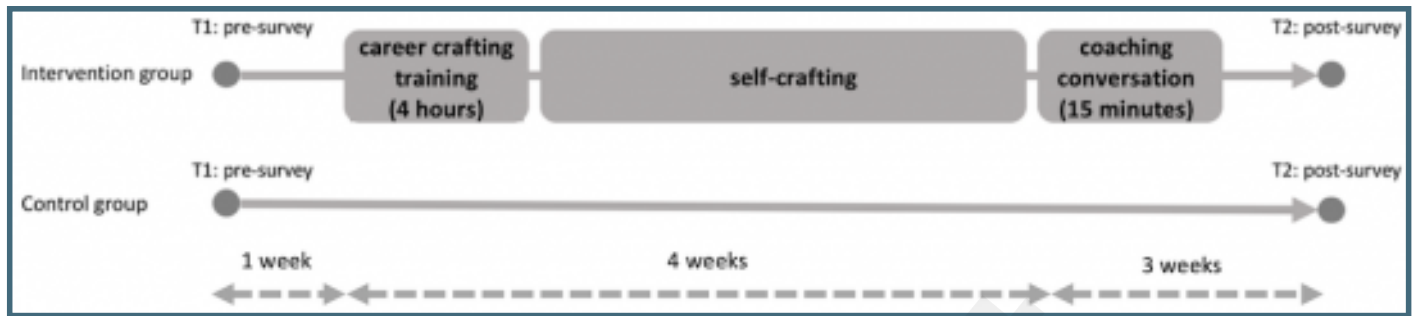
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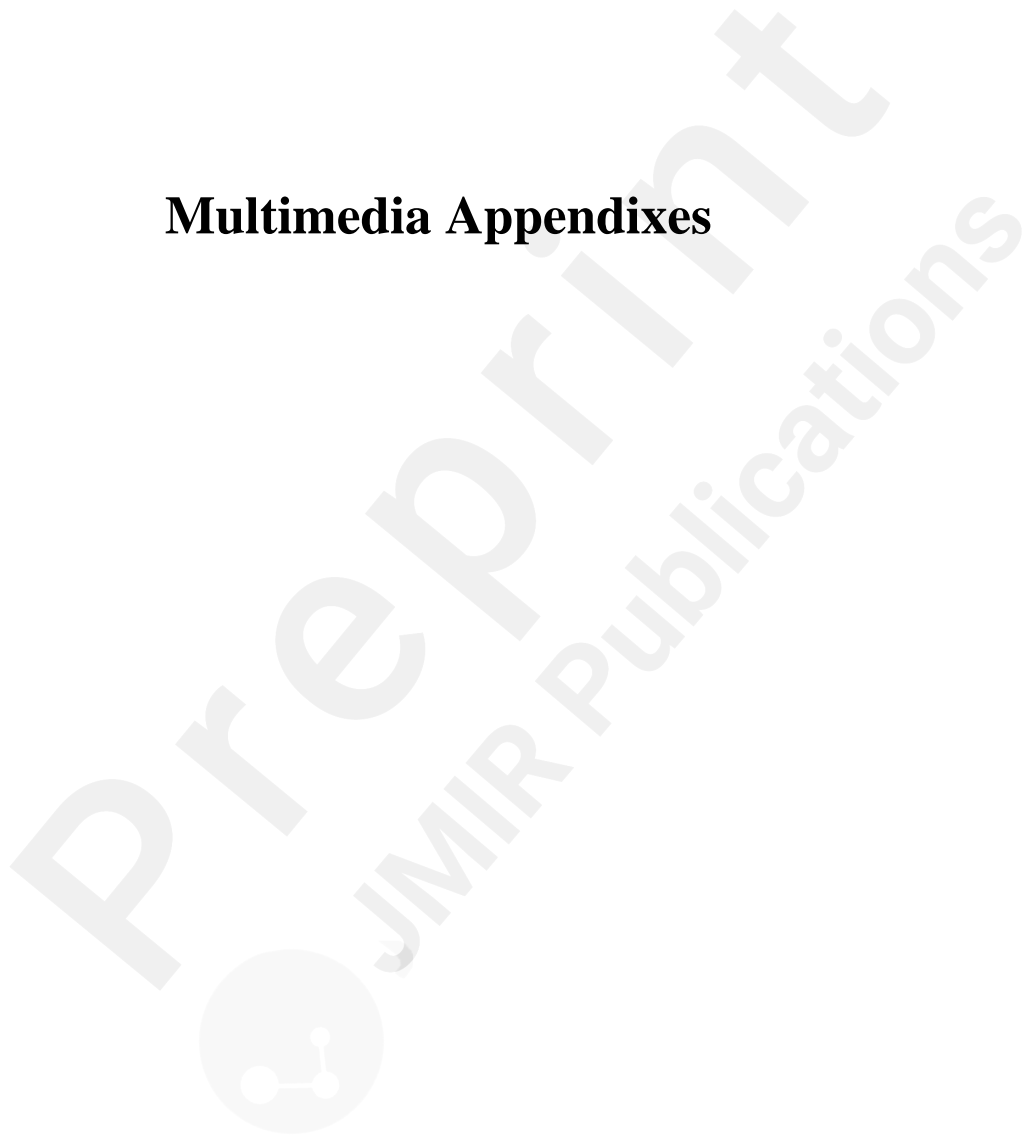
Figures



Design of the career crafting intervention.



Multimedia Appendixes



Theory-based methods and practical applications of the career crafting intervention.

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Elements of the process evaluation.

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CONSORT (or other) checklists

CONSORT.EHEALTH v1.6.

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