Study Protocol for a Clinical Trial on Prosocial Job Crafting, Job Resources Exchange, and Work Outcomes (status: 26.02.2025)

Study Title:
Future Proofing Health- and Care Systems Safeguarding Health Care Workers in Hospital Settings

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Study Objective:

To investigate the effects of prosocial job crafting, the exchange of resources with other team members, and their impact on work outcomes (e.g., burnout, work engagement, and flourishing) over 10 consecutive days. This study will also explore the moderating effects of workload.

Study Design:

- **Type of Study:**
  Prospective, longitudinal, observational diary study (experience sampling study)

- **Study Duration:**
  10 workdays of data collection (daily surveys on workdays), with a baseline survey administered at the start (day 0).

- **Study Setting:**
  The study will be conducted using an online survey tool (Castor), accessible via smartphones.

Participants:

- **Eligibility Criteria:**
  - Employees (nurse professionals) working in a team-based work environment (hospital setting).
  - Participants must be able to complete daily surveys in the designated timeframe (end of each workday).

- **Exclusion Criteria:**
    - Part-time workers with small contracts (less than 3 days a week) or individuals not engaged in team-based work.
    - Participants who do not complete the baseline survey or a minimum of 5 daily surveys.

- **Recruitment Method:**
  Employees will be recruited through internal communication channels (e.g., email, internal bulletins). Interested participants will be invited to take part in the study and provided with an information letter and informed consent form.

Informed Consent:

Participants will first receive an information letter containing:

- A summary of the study's purpose and objectives.

- Information regarding participation, data confidentiality, withdrawal rights, and ethical approval.

- Contact information of the researchers.

Participants must read and agree to the informed consent by checking a box before they can begin the baseline survey.

Study Procedure:

Pre-measure Survey (Day 0):

1. **Informed Consent, Demographic Information, trait variables:**
   After agreeing to participate, participants will be asked to provide an anonymous personal code to ensure data confidentiality. They will then complete a baseline survey that covers:

   - **Demographics**

- **Age** will be assessed with one item: **What is your age? (Please put numbers only, for e.g. 36)**
- **Gender** will be assessed with the following question: **What gender do you identify as?** Answer options are 'female', 'male', 'I use another term, please specify', and 'prefer not to say'.
- **Job title** will be assessed with the following question: **As a nurse, what is your current clinical role?** Answer options are 'nursing student, 'registered nurse',

'specialized nurse', 'nurse practitioner', 'clinical nurse specialist', 'nurse manager, 'other', 'prefer not to say'.

Job tenure will be assessed with the following question: **How long have you been in your current job?** Answer options are 'less than 1 year', '1-2 years', '3-5 years', 6-10 years', 11-15 years', 16-20 years' 'more than 20 years', and 'prefer not to say'.

- **Length in current position** will be assessed with the following question: **How long have you been in your current role/position?**
Answer options are 'less than 1 year', '1-2 years', '3-5 years', 6-10 years', 11-15 years', 16-20 years' 'more than 20 years', and 'prefer not to say'.

- **Specialty** will be assessed with the following question: **As a nurse, what is your specialty?**

- **Ward** will be assessed with the following question**: What ward do you primarily work in?**

- **Employment status** will be assessed with the following question: **Do you work full-time or part-time?**

- **Overtime** will be assessed with the following question: How often do you find yourself working overtime? Answer options range from 1 (*never*) to 5 (*always*).

- **Hours worked per week** will be assessed with the following question**: On average, how many hours a week do you work?**

o **Trait level variables**

Prosocial motivation will be assessed using a 4-item scale as used in Grant (2008). Answer options range from 1 (*strongly disagree*) to 7 (*strongly agree*).

Why are you motivated to do your work?

1. Because I care about benefiting others through my work.
2. Because I want to help others through my work.
3. Because I want to have positive impact on others.
4. Because it is important to me to do good for others through my work.

Team culture will be assessed using the 16-item team climate inventory by Anderson & West (1996). Answer options range from 1 (*strongly disagree*) to 7 (*strongly agree*).

1. I am in agreement with the team's objectives.
2. My team's objectives are clearly understood by other members of the team.
3. I think that my team's objectives can actually be achieved.
4. In my opinion objectives are worthwhile to the organization.
5. I have a 'we are in it together' attitude.
6. People keep each other informed about work-related issues in the team.

7. People feel understood and accepted by each other.
8. There are real attempts to share information throughout the team.
9. Team members are prepared to question the basis of what the team is doing.
10. The team critically appraise potential weaknesses in what it is doing in order to achieve the best possible outcomes.
11. Members of the team build on each other's ideas in order to achieve the best possible outcome.
12. There is a real concern among team members that the team should achieve the highest standards of performance.
13. People in this team are always searching for fresh, new ways of looking at problems.
14. In this team, we take the time needed to develop new ideas.
15. I find myself threatened to put forward new ideas to the team.
16. People in the team cooperate in order to help develop and apply new ideas.

Personal reciprocity norms will be assessed using the 'Beliefs in reciprocity' and 'Positive reciprocity' subscales of the Personal Norm of Reciprocity (PNR) measure (Perugini et al., 2002). Answer options range from 1 (*strongly disagree*) to 7 (*strongly agree*). In order to alleviate participant burden, we will only use selected items (in bold).

Beliefs in reciprocity

1. **To help somebody is the best policy to be certain that s/he will help you in the future.**
2. **I do not behave badly with others so as to avoid them behaving badly with me.**
3. **I fear the reactions of a person I have previously treated badly.**
4. If I work hard, I expect it will be repaid
5. **When I pay someone compliments, I expect that s/he in turn will reciprocate.**
6. **I avoid being impolite because I do not want others being impolite with me.**
7. If I help tourists, I expect that they will thank me nicely.
8. It is obvious that if I treat someone badly s/he will look for revenge.
9. If I don't leave a good tip in a restaurant, I expect that in future I will not get good Service.

Positive reciprocity

1. **I am ready to undergo personal costs to help somebody who helped me before.**

2. **If someone does a favour for me, I am ready to return it.**
3. **If someone is helpful with me at work, I am pleased to help him/her.**
4. **I'm ready to do a boring job to return someone's previous help.**
5. **When someone does me a favour, I feel committed to repay him/her.**
6. If someone asks me politely for information, I'm really happy to help him/her.
7. If someone lends me money as a favour, I feel I should give him/her back something
   more than what is strictly due.
8. If somebody suggests to me the name of the winning horse at the race, I would certainly give him/her part of my winnings.
9. **I go out of my way to help somebody who has been kind to me before.**

Task interdependence will be assessed with a three-item measure by Campion and colleagues (1993). Answer options range from 1 (*strongly disagree*) to 7 (*strongly agree*).

1. I cannot accomplish my tasks without information or materials from other members of my team.
2. Other members of my team depend on me for information or materials needed to perform their tasks.
3. Within my team, jobs performed by team members are related to one another.

Daily Surveys (Day 1-10):

Participants will receive daily surveys at the end of each workday for 10 consecutive workdays. Each survey will include:

1. **Workday Verification:**

   o "Did you work today?" If the participant answers "No," the survey will end immediately.

2. **Personal Code Input:**
   Participants will be asked to input their personal anonymous code to match responses with their baseline survey.

3. **Daily Work Reflection (Main Study Variables):**

Daily prosocial job crafting will be assessed with Viragos' (2018) Prosocial Job Crafting Measure (PSJCM). The scale consists of 12 items that capture the extent to which individuals engage in prosocial task, relational, and cognitive crafting. Participants will be asked to indicate the extent to which they engaged in prosocial job crafting on a particular day, with answer options ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Below, you can find a series of statements about behaviors related to the nature of your work tasks and the way you interact with other members of your team. Please read each statement carefully and indicate to what extent you have engaged in the behavior **today**.

1. Today, I have taken on additional work tasks that benefit other team members.
2. Today, I introduced new approaches to my work tasks that benefit other team members.
3. Today, I prioritized work tasks that benefit other team members.
4. Today, I managed my tasks to create opportunities to help other team members.
5. Today, I offered informal advice to benefit other team members.
6. Today, I developed a friendship with other team members to benefit them.
7. Today, I helped other team members with non-work related personal matters (e.g., conflict with a spouse, personal problem).
8. Today, I helped other team members with work-related personal matters (e.g., conflict with a co-worker or work-related problem).
9. Today, I thought about the ways my work positively impacts other team members.
10. Today, I reminded myself about the positive differences my work can make to other team members.
11. Today, I became more aware of the opportunities my work offers to benefit other team members.
12. Today, I changed my views on my work to see its importance for other team members.

Exchange of daily job resources will be assessed with six items developed by Edelmann et al. (in preparation). Items will be answered on a 5-point scale, ranging from 1 (*not at all*) to 5 (*very often*).

1. Today, how often did you provide social support to other team members?
2. Today, how often did you provide constructive feedback or compliments to other team members?
3. Today, how often did you provide useful information to other team members?
4. Today, how often did you receive social support from other team members?
5. Today, how often did you receive constructive feedback or compliments from other team members?
6. Today, how often did you receive useful information from other team members?

Additionally, we will assess **daily psychological capital (PsyCap)** to capture personal resources, using Luthans and colleagues' 12-item measure (2017).

1. Today, I energetically pursued my work goals.
2. Today, I saw myself as being pretty successful at work.
3. Today, I met the work goals that I had set for myself.
4. Today, when things were uncertain for me at work, I expected the best.
5. Today, I looked on the bright side of things regarding my job.

6. Today, I was optimistic about what will happen to me in the future as it pertains to work.
7. Today, when I had a setback at work, I had trouble recovering from it, moving on.
8. Today, I managed difficulties one way or another at work.
9. Today, I could get through difficult times at work because I experienced difficulty before.
10. Today, when difficulties arose at work, I knew how to solve them.
11. Today, although it took a lot of time and energy, I achieved what I wanted at work.
12. Today, if something new came up at work, I knew how to deal with it.

Daily work engagement will be assessed with three items adapted from the Utrecht Work Engagement Scale (UWES-3; Schaufeli et al., 2017). Answer options ranged from 1 (*strongly disagree*) to 7 (*strongly agree*).

1. Today, I felt bursting with energy.
2. Today, I was enthusiastic about my job.
3. Today, I was immersed in my work.

Daily burnout symptoms will be assessed using the ultra-short version of the Burnout Assessment Tool (BAT4; Hadžibajramović et al., 2024). Answer options range from 1 (*strongly disagree*) to 7 (*strongly agree*).

1. Today at work, I felt mentally exhausted.
2. Today, I struggled to find any enthusiasm for my work.
3. Today, I had trouble concentrating when I was working.
4. Today at work, I may have overacted unintentionally.

Daily flourishing will be assessed using Diener and colleagues' (2010) short version of the Flourishing Scale. Items were adapted to the day level (e.g., Conner et al., 2016. Answer options range from 1 (*strongly disagree*) to 7 (*strongly agree*).

1. Today, I led a purposeful and meaningful life.
2. Today, my social relationships were supportive and rewarding.
3. Today, I was engaged and interested in my daily activities.
4. Today, I actively contributed to the happiness and well-being of others.
5. Today, I was competent and capable in the activities that are important to me.
6. Today, I was a good person and lived a good life.
7. Today, I was optimistic about my future.
8. Today, people respected me.

Daily Workload will be measured with five items from the Questionnaire on the Experience and Evaluation of Work (QEEW 2.0; Van Veldhoven et al., 2015). Answer options range from 1 (*strongly disagree*) to 7 (*strongly agree*).

1. Today, I had too much work to do.
2. Today, I had to work very fast.
3. Today, my work was mentally very challenging.
4. Today, my work demanded a lot from me emotionally.
5. Today, I found my work physically strenuous.

Post-study Survey (Day 11):

After completing the 10th daily survey, participants will be directed to a final "Thank you" page that provides:

- A summary of the research objectives and results.

- Information about how their data will be used.

- Contact details of the researchers in case participants have further questions.

Participants will also be invited to provide any remarks or feedback on their experience and can choose to provide their email addresses if they are interested in future studies on coworking design.

Data Collection Tools:

- **Survey Platform:** Castor, designed to be mobile-friendly, allowing participants to complete the surveys on smartphones.

- **Questionnaire Format:** Participants will complete a series of self-report measures.
    - Scales for daily outcomes (e.g., burnout, engagement, and flourishing) will be adapted to the daily diary context, using shortened and validated scales where possible.

Data Management:

- **Anonymity:** Each participant will receive an anonymous personal code, which will be used solely for matching their responses across surveys. The personal code will be removed from the dataset before analysis to ensure anonymity.

- **Confidentiality:** Data will be stored securely, and all responses will be kept confidential. Only authorized researchers will have access to the data.

- **Data Storage:** Data will be stored in a password-protected database, following ethical guidelines.

Outcome Measures:

1. **Primary Outcome Measures:**

   - **Resource exchange:** Frequency of job resources exchange with colleagues.

   - **Burnout, Work Engagement, and Flourishing:** Adapted, shortened scales assessing daily levels of these work outcomes.

2. **Secondary Outcome Measures:**

   - **Workload:** Perceived daily workload as a moderating variable.

Ethical Considerations:

- **Informed Consent:** All participants will provide informed consent before participating.

- **Voluntary Participation:** Participation is voluntary, and participants can withdraw from the study at any time without consequences.

- **Confidentiality:** Personal identifiers will not be associated with the data, and all responses will be kept confidential.

- **Ethical Approval:** The study will be conducted in accordance with ethical guidelines and approved by [Institution's Ethics Review Board].

Statistical Analysis:

Data will be analyzed using statistical methods suitable for diary studies, such as multilevel modeling, to account for the nested nature of daily data within individuals. Descriptive statistics, as well as inferential analyses, will be conducted to examine the relationships between prosocial job crafting, resource exchange, and work outcomes.

Conclusion:

This protocol outlines a study aimed at understanding how prosocial job crafting and resource exchange influence work outcomes, with daily tracking over 10 consecutive

days. The study will provide valuable insights into the dynamics of workplace interactions and their impact on well-being.

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