

# Physicians' Perspectives on Person-Related Factors Associated With Work Participation and Methods Used to Obtain Information About These Factors

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**Objective:** Person-related factors influencing work participation of employees with health problems are important. However, the best method to obtain information about them, according to occupational physicians (OPs) and insurance physicians (IPs), is unknown. **Methods:** Questionnaires in which OPs and IPs rated the importance of and described methods to obtain information about 10 person-related factors: expectations regarding recovery or return to work, optimism/pessimism, self-efficacy, motivation, feelings of control, perceived health, coping strategies, fear-avoidance beliefs, perceived work-relatedness, and catastrophizing. **Results:** OPs and IPs perceived all person-related factors, except for optimism/pessimism and perceived health as important for work participation. Information about the factors could best be obtained with use of a topic list during consultations. **Conclusions:** OPs and IPs should take person-related factors into account during consultations and it is best to use a topic list when discussing them.

**Keywords:** insurance physicians, occupational health, occupational physicians, person-related factors, work participation

Occupational physicians (OPs) and insurance physicians (IPs) play an important role in the guidance and the assessment of work disability of employees with all kinds of mental and physical health problems, who experience work limitations. To prevent sick leave or decrease the duration of sick leave of employees with health problems, it is important for these physicians to intervene on factors that influence work participation.<sup>1,2</sup> Among these factors are person-related factors, such as employees' cognitions and perceptions.<sup>3,4</sup> Employees with different health problems mentioned that such factors as motivation, perception of control, and positive coping strategies can facilitate return to work (RTW).<sup>5-7</sup> Different RTW stakeholders, for example, employers, insurers, lawyers, and health care providers, also acknowledge the importance of such factors as self-efficacy, coping with pain or injury, and recovery expectations for RTW.<sup>8</sup> The results of several qualitative studies indicate that occupational health professionals also acknowledge the importance of person-related factors for work participation.<sup>1,9,10</sup> Vocational rehabilitation professionals considered factors such as

work motivation, positive expectations about recovery, and self-esteem as promoting factors for RTW.<sup>9</sup> In addition, IPs agreed that motivation, coping, and negative perceptions are relevant factors for RTW and should be included in the assessment of the work ability of employees on long-term sick leave.<sup>1</sup> IPs already take into account employees' expectations, motivation, and coping strategies when assessing the work disability of cancer survivors.<sup>10</sup> A recent review of literature confirmed the association between 10 different person-related factors and work participation.<sup>11</sup> These factors are expectations regarding recovery or RTW, optimism/pessimism, self-efficacy, motivation, feelings of control, perceived health, coping strategies, fear-avoidance beliefs, perceived work-relatedness and catastrophizing.

Because of the importance of person-related factors, OPs and IPs should take them into account during their consultations with employees.<sup>11</sup> However, no systematic methods are available for OPs and IPs to obtain information about the 10 person-related factors from employees. Information about these factors could give OPs and IPs more insight into which factors require intervention to increase the work participation of employees with health problems.<sup>1</sup>

To develop a new and efficient method for obtaining information about person-related factors, it is important to know which of these factors OPs and IPs, the physicians who might use this new method in the future, consider important. Furthermore, it is important to know how physicians obtain information about person-related factors and which method is, in their view, the best for obtaining this information.<sup>11</sup> Therefore, we conducted a questionnaire study, with the following research questions: Which of the 10 selected person-related factors are deemed important by OPs and IPs to take into account during consultations? How do OPs and IPs currently assess person-related factors and which method is, in their view, the best for obtaining information about these factors?

## METHODS

The Medical Ethics Review Committee of the Academic Medical Center (AMC), University of Amsterdam, confirmed that the Medical Research Involving Human Subjects Act (WMO) did not apply to this study and that an official approval by this committee was therefore not required (W 17\_373 # 17.437).

## Participants

Participants in the present study were OPs and IPs in the Netherlands. The main role of OPs in the Netherlands is to prevent work-related health problems and to guide employees with health problems on sick leave back to work. OPs are consulted by employees who are on (partial) sick leave for less than 2 years. The main task of IPs in the Netherlands is to evaluate the disabilities and functional abilities of employees, and to assess whether they should receive a work disability benefit. IPs are mostly consulted by employees who are on sick leave for over 2 years.

The OPs and IPs that participated in this study were recruited from three professional associations in the Netherlands: the Netherlands Society of Occupational Medicine (NVAB), the Dutch Association for Insurance Medicine (NIVVG), and the Dutch

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Association of Medical Advisers in Private Insurance (GAV). More than 80% of the OPs and IPs in the Netherlands are member of one of these associations, which makes them representative for the OPs and IPs in the Netherlands. All physicians who were members of these associations were invited by email in November to December 2017 to complete an anonymous online questionnaire. Physicians were excluded from analyses in this study if they did not have direct contact with patients or if they did not complete the question about the importance of different person-related factors.

## Procedure

The email was sent to 1350 OPs who were members of the NVAB, 231 IPs who were members of the GAV, and 668 IPs who were members of the NVVG. Three weeks after the first invitation, the professional associations sent a second email to all the OPs and IPs as a reminder asking the physicians to complete the questionnaire. The first email and the second email both contained a link to the online survey tool. Before completing the questionnaire, the physicians had to sign an informed consent form. The questionnaire could be completed within 30 minutes. Although participants were encouraged to complete the questionnaire in one sitting, they could pause the questionnaire and complete it at another time. The IPs and OPs did not receive a reward in return for their participation in this study.

## Measures

The questionnaire was developed by researchers from the department Coronel Institute of Occupational Health of the Amsterdam University Medical Centers (Amsterdam UMC) and researchers from the department of Health Sciences, Community and Occupational Medicine of the University Medical Center Groningen (UMCG) using Qualtrics survey software (Qualtrics, www.qualtrics.com). The researchers developed a first version of the questionnaire in Qualtrics that was piloted by five occupational health professionals (both OPs and IPs). After they completed the online questionnaire, they were interviewed by one researcher (NS) about the content of the questionnaire, the readability of the questionnaire, their experience with completing the questionnaire, and suggestions for improvement of the questionnaire. Based on their feedback and suggestions, the questionnaire was adapted.

The final questionnaire contained questions about demographic variables (age, sex, current job, work experience) and 10 person-related factors. The selected person-related factors were 10 person-related factors that were identified as possibly important for work participation by a small group of OPs and IPs and that were confirmed to be associated with work participation in a previously performed systematic review.<sup>11</sup> The perceived importance of the factors was measured on a 5-point scale (1 = not important at all; 5 = extremely important). For rating the importance of the factors, five factors were presented at one time, which made it easier for the physicians to compare the importance of the factors. It was possible for the physicians to go back and rerate the factors. In open questions, the physicians were asked to describe how they obtain information about the factors they had rated with a score of 4 (very important) or 5 (extremely important). They were also asked about the best method for obtaining information: "What do you think is the best method for obtaining information about the person-related factors?" The participants could choose one of three answer options (1, The employee completes a questionnaire about the factors before the start of the consultation; 2, The employee completes a questionnaire during the consultation; 3, The professional discusses the factors with the employee during the consultation with the use of a topic list) or could describe another method. The questionnaire also contained questions regarding cognitions and perceptions of significant others of employees. However, the answers to these questions were not analyzed for this study.

## Data Analyses

Statistical analyses of the closed questions were performed using SPSS statistics 24.0. The data of physicians were analyzed separately for OPs and IPs because OPs and IPs in the Netherlands differ in their tasks and employees they see during consultations. Descriptive statistics were computed for each variable. The answers concerning the importance of the factors were presented as relative frequencies. If at least 60% of the professionals gave a factor a score of 4 (very important) or 5 (extremely important), the factor was regarded as important to take into account during consultations. The answers to the question about the best method for obtaining information about the person-related factors were also presented as percentages. The other methods for obtaining information as described in the open option in this question and the answers to the open questions about the methods the physicians use to gain insight into the person-related factors were summarized by one researcher (MdW) and checked by a second researcher (HW or CH). Disagreements about the summaries were resolved by discussion and consensus.

## RESULTS

### Participant Characteristics

In total, 172 OPs and 69 IPs signed the informed consent form to participate in this study. Of the 172 OPs, 3 OPs with a mean age of 58 years (SD = 10.4), among which 1 female (33%), were excluded because they did not have direct contact with patients. One OP was excluded because he did not answer the question about having direct contact with patients. Thirteen OPs with a mean age of 56 years (SD = 2.9), among which 6 females (41%) did not complete the question about the importance of the factors and were excluded from this study. Of the 69 IPs, 9 IPs with a mean age of 52 years (SD = 9.0) and among which 5 females (56%) were excluded because they did not have direct contact with patients. Four IPs did not complete the questions about the importance of the factors and were excluded. Among them were two females (50%) and the mean age of these IPs was 54 years old (SD = 9.1).

In total, 155 OPs of the 1350 OPs from the NVAB (response rate 11%) and 56 IPs of the 899 IPs from the GAV and the NVVG (response rate 6%) met the inclusion criteria and completed the questions about the importance of the factors in this study. The demographics of these participants are presented in Table 1.

### Importance of Person-Related Factors

Tables 2 and 3 show the importance of the person-related factors as perceived by OPs and IPs, including the minimum and maximum given scores. The five most important and the five least important person-related factors were the same for the two vocational groups. According to our criteria, all person-related factors, except perceived health, were regarded by OPs as important (Table 2). Especially expectations regarding recovery or RTW, coping strategies, and motivation were perceived as important: at least 80% of physicians deemed these factors very or extremely important. IPs thought that all factors, except perceived health and optimism/pessimism, were important to take into account during consultations (Table 3). They perceived especially coping strategies and fear-avoidance beliefs as very or extremely important.

### Methods to Obtain Person-Related Information

In total, 122 OPs and 41 IPs answered the open question about the methods they use to obtain information about each of the person-related factors that they regard as very or extremely important. There were no notable differences between the methods used to obtain information between OPs and IPs. Most physicians reported that they discuss the factors during consultations in which they ask employees direct and indirect questions. Some of these physicians

**TABLE 1.** Demographic Variables (Sex, Age, Work Experience, Work Situation)

Variables	Occupational Physicians (N = 155), n (%)	Insurance Physicians (N = 56), n (%)
Sex		
Male	92 (59)	31 (55)
Female	63 (41)	25 (45)
Age (M, SD)	56 (6.4)	54 (10.4)
Work experience, y		
<5	2 (1)	7 (13)
5–10	2 (1)	7 (13)
11–15	12 (8)	2 (4)
16–20	33 (21)	9 (16)
>20	106 (68)	31 (55)
Work situation		
Self-employed	68 (44)	6 (11)
Paid-employment in occupational health service	81 (52)	48 (86)
Both	6 (4)	2 (4)

also reported examples of specific questions they ask for obtaining information about each factor during these consultations. Examples of these reported questions regarding each factor are given in Table 4. Some physicians reported that they do not directly ask questions about the factors, but just listen to and observe the employees to obtain information.

Some physicians reported asking significant others, employers, or treating physicians for information about the person-related factors of employees. For example, OPs reported that they ask employees' partners for more information about the motivation or the expectations of their partners regarding recovery or RTW. IPs reported that information about the perceived work-relatedness of the disease and the motivation of the employee to RTW could be obtained from employers.

Finally, physicians reported using questionnaires to obtain information about person-related factors. For example, the Dutch

**TABLE 2.** Number and Percentage of OPs Who Rated Individual Person-Related Factors as Very or Extremely Important to Take Into Account During Consultations and Minimum and Maximum Given Scores (N = 155)

Factor	OPs Who Rated Factor With a Score of 4 (Very Important) or 5 (Extremely Important), n (%)	Minimum and Maximum Scores Given by OPs
Expectations regarding recovery or return to work	125 (81)	3–5
Coping strategies	125 (81)	3–5
Motivation	124 (80)	3–5
Fear-avoidance beliefs	120 (77)	2–5
Feelings of control	116 (75)	2–5
Catastrophizing	114 (74)	2–5
Perceived work-relatedness	106 (68)	2–5
Self-efficacy	105 (68)	2–5
Optimism/pessimism	95 (61)	1–5
Perceived health	77 (50)	2–5

OPs, occupational physicians.

**TABLE 3.** Number and Percentage of IPs Who Rated Individual Person-Related Factors as Very or Extremely Important to Take Into Account During Consultations and Minimum and Maximum Given Scores (N = 56)

Factor	IPs Who Rated Factor With a Score of 4 (Very Important) or 5 (Extremely Important), n (%)	Minimum and Maximum Scores Given by IPs
Coping strategies	46 (82)	3–5
Fear-avoidance beliefs	45 (80)	2–5
Motivation	41 (73)	2–5
Feelings of control	41 (73)	2–5
Expectations regarding recovery or return to work	38 (68)	2–5
Catastrophizing	38 (68)	2–5
Perceived work-relatedness	35 (63)	2–5
Self-efficacy	35 (63)	2–5
Perceived health	32 (57)	2–5
Optimism/pessimism	31 (55)	2–5

IPs, insurance physicians.

Four-Dimensional Symptom Questionnaire was reported to be used to assess fear-avoidance beliefs and optimism/pessimism.<sup>12</sup>

### Best Method to Obtain Person-Related Information

In total, 134 OPs and 51 IPs answered the question about the best method for obtaining information about the person-related factors. The OPs and IPs agreed about the best methods to obtain information. Sixty-eight OPs (51%) and 26 IPs (51%) said that discussing them with the employee during the consultation with the use of a topic list was the best method. Twenty OPs (15%) and six IPs (12%) preferred a questionnaire to be completed before the consultation. None of the physicians thought that it was best to let the employee complete a questionnaire during a consultation. Forty-six OPs (34%) and 19 IPs (37%) reported preferring other methods. For example, 18 OPs (13%) and 8 IPs (16%) said that they preferred combining questionnaires with discussing the factors during the consultation. One of the OPs answered: "A combination of the first option and the third option: a questionnaire could be used as a guideline for the conversation, with the possibility to ask for more explanation during the conversation." In addition, one of the IPs answered: "Employees could complete a questionnaire before the consultation, and afterward, during personal contact, an IP could ask more about the factors." However, there were also physicians who thought that information could be obtained during the consultation without the use of a topic list. One of the OPs answered: "One could gain information about the factors during the consultation. However, if you discuss these factors with fixed topics, you could create the impression that you just follow the protocols instead of really getting into a conversation with the sick employee." In addition, an IP answered: "An open conversation with room for discussing these factors works better than a conversation with a strict structure and lists." Another method that was perceived as the best was to ask for additional information about the factors from the employee's other treating physician, employer or significant other. One OP answered: "During the consultation, these kinds of factors will come up easily during interaction, and sometimes the presence of a partner or family member can be really helpful." One IP answered: "If necessary, additional information about these factors could be obtained from practitioners or OPs."

**TABLE 4.** Examples of Questions OPs and IPs Ask to Obtain Information About the Person-Related Factors

Factor	Questions from OPs and IPs
Expectations regarding recovery or return to work	How long do you think will it take to recover? When do you expect to return to work? In which way do you think you will return to work? What could promote your return to work? What is your goal regarding reintegration into work?
Motivation	What are your thoughts regarding return to work? Do you enjoy your work? How is your contact with colleagues? How important is your work to you? How do you think about returning to work? What are you doing to promote your return to work? What hinders your return to work?
Coping strategies	What activities do you do during the day? What activities are you able to do at home, despite your limitations? How do you cope with your limitations in your daily life? What would help to reduce your limitations? In which way do you think you will return to work?
Fear-avoidance beliefs	What have you done to promote your recovery? Do you think that your complaints will persist, increase or disappear when you return to work? Which factors exacerbate your complaints? What hinders your return to work?
Feelings of control	What do you think will happen if you return to work? What do you do to try to alleviate your complaints or limitations and promote your recovery? Do you think that you can influence your limitations or recovery? What can you do to promote your recovery?
Optimism/pessimism	What would help promote your recovery? What are your expectations regarding your recovery? How do you see your future regarding your limitations?
Catastrophizing	What do you think is the reason why you are not able to perform certain activities? What do you think will worsen your complaints? What do you think will happen if you return to work?
Self-efficacy	What are your expectations regarding your recovery? Do you think you will reach your goals regarding recovery? In which way do you think you will reach the goals regarding your recovery or return to work? How high do you think your chances are of returning to work? How do you see your future?
Perceived health	How do you rate your health on a scale of 1 to 10? What do you think about your health in general?
Perceived work-relatedness	Do you think that your job was the cause of your complaints? Do you think your complaints will persist, increase or decrease when you return to work? Which work factors do you think could influence your complaints?

IPs, insurance physicians; OPs, occupational physicians.

## DISCUSSION

The results of this study indicate that according to our criteria, OPs regarded all person-related factors, except for perceived health, as important to take into account during consultations. IPs perceived all person-related factors, except perceived health and optimism/pessimism, as important. The physicians use various methods to obtain information about the factors, but most obtain information by discussing the factors during consultations and think it is best to do this with the use of a topic list.

Especially the factors expectations regarding recovery or RTW, coping, and motivation were often deemed as very or extremely important by OPs. The importance of these factors was also recognized by occupational health professionals in previous studies.<sup>1,9,10</sup> IPs in our study also regarded fear-avoidance beliefs as a very important factor. These results are congruent with previous research in which negative beliefs, which could elicit avoiding behavior, were perceived as important by IPs.<sup>1</sup>

The factor that was seen as less important by IPs in our study was optimism/pessimism. Various studies indicate that employees themselves regard this factor as important for work participation,<sup>7,13,14</sup> so the perception of the importance of this factor might

differ between employees and physicians. In our study, both IPs and OPs identified perceived health as a factor that is less important. This is in contrast with the results of previous studies which indicated that an association between perceived health and work participation exists.<sup>15,16</sup> These results suggest that although perceived health is associated with work participation, employees' perceived health might have less influence on the way the OPs guide them or the way IPs assess their disability. A possible reason why physicians regarded perceived health as a factor that is less important, is that perceived health is a broad factor that coheres with other person-related factors in this study.

In accordance with the second aim of our study, we explored the methods that OPs and IPs use to obtain information about person-related factors. The physicians obtain such information by asking questions and listening to employees during consultations, using questionnaires and asking third parties. The best method from the perspective of OPs and IPs would be to discuss the factors with the help of a topic list. Previous studies also recognize the importance of structuring interviews by, for example, using a list of the most crucial interview topics to decrease variation in outcomes of disability assessments by IPs.<sup>17,18</sup> What is notable is that the method

the physicians reported using was not always the method they think is best for obtaining information. A possible reason for this is that a topic list, which according to most physicians in this study would help them to discuss all the person-related factors, does not exist. This could be an indication that there is a need for such a topic list.

This study confirms the importance of considering person-related factors during consultations from the perspective of OPs and IPs. A strength of this study is that it explored the methods that OPs and IPs actually use and the methods they consider the best for obtaining information about person-related factors. This provides input for developing a method for systematically taking these important factors into account during consultations. We decided to analyze the answers of OPs and IPs separately because OPs and IPs in the Netherlands see different selections of employees and have different functions. Because their clients and tasks differ, the factors they think are important and the questions they ask could differ. The results of our analyses suggest, however, that there are no notable differences between the opinions of OPs and IPs about which factors are important. Although the sequence of importance differed slightly between OPs and IPs, the five factors that both vocational groups most often rated as very or extremely important are the same. There were also no notable differences in the methods they use or the questions they ask to obtain information. A possible reason why there were no notable differences between the professionals could be that although the work they perform differs, they have comparable experiences and education. So in further research and in developing a method for obtaining person-related information, making a distinction between IPs and OPs might not be necessary when it comes to these factors.

A limitation of our study is that the overall response rate was low. Because we knew from previous studies that in general the overall response rate of physicians in questionnaire studies is limited,<sup>19</sup> we aimed to reach as many OPs and IPs in the Netherlands as possible with the questionnaire, by recruiting them via professional associations. Although the response rate is still limited, we think that the number of responses was sufficient to draw conclusions in this explorative study. In addition, our sample seems representative for the OPs and IPs in the Netherlands. The high mean age of the OPs (56 years) and IPs (54 years) in this study seems comparable with the ages of the whole population OPs and IPs in the Netherlands. In 2016, approximately 50% of the registered and working IPs and OPs in the Netherlands was between 55 and 65 years old, according to data of the Medical Specialists Registration Committee (Royal Dutch Medical Association, KNMG).<sup>20</sup> According to the same data, 36.2% of the registered and working OPs was female and 40.1% of the registered and working IPs was female, which is comparable to the percentage of females in this study.<sup>20</sup> Summarized, although the response rate was low, the sample of OPs and IPs who participated in this study appears to be a good representation for all registered OPs and IPs in the Netherlands.

Another limitation is that the factors discussed in this study are person-related factors that were selected before the start of our study, based on the results of a recent systematic review.<sup>11</sup> The factors were in that systematic review selected by two experts in occupational and insurance medicine and discussed with two additional OPs and three IPs. It is possible that other person-related factors of importance were not included in this study. An example of another person-related factor that could possibly be important for work participation, is pain acceptance which was in a previous study associated with better health outcomes, such as less increase in pain intensity and improvement in depressive symptoms.<sup>21</sup> However, the IPs and OPs in the present study had the opportunity to comment on the questionnaire or on other aspects that were of importance for our study at the end of the questionnaire, but none of the physicians mentioned the absence of any important person-related factors. We therefore believe that all relevant person-related factors were included in this study.

## CONCLUSIONS

The results of this study confirm the importance of considering person-related factors during consultations. Both OPs and IPs regarded 8 of the 10 factors important enough to take into account during consultations. The factors optimism/pessimism and perceived health were seen as less important, and could possibly be disregarded in further research about person-related factors. The results indicate that OPs and IPs do not use just one method to obtain person-related information, but use various methods. However, OPs and IPs agree that it would be best to use a topic list during consultations. The different methods to obtain person-related information that are described in this study and the reported example questions for obtaining information about the person-related factors, are relevant and could be helpful for occupational health professionals worldwide to obtain person-related information during their consultations with employees. The findings from this study and the examples of questions the physicians ask during the consultations, could also be used as input for the development of a new method for obtaining information about the important person-related factors, which could help OPs and IPs to increase the work participation of employees with health problems.

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