



Self-efficacy and return to work in cancer survivors: Current knowledge and future prospects

Bertrand Porro, Angela G E M de Boer, Monique H W Frings-Dresen, Yves
Roquelaure

► To cite this version:

Bertrand Porro, Angela G E M de Boer, Monique H W Frings-Dresen, Yves Roquelaure. Self-efficacy and return to work in cancer survivors: Current knowledge and future prospects. *European Journal of Cancer Care*, 2020, 29 (6), pp.e13304. 10.1111/ecc.13304 . hal-02930168

HAL Id: hal-02930168

<https://hal.science/hal-02930168>

Submitted on 10 Mar 2021

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Self-efficacy and return-to-work in cancer survivors: current knowledge and future prospects

Bertrand Porro^{1,2}

Angela G. E. M. de Boer³

Monique H. W. Frings-Dresen³

Yves Roquelaure^{1,4}

1 - Inserm, EHESP, Irset - UMR_S 1085, Univ. Angers, Univ. Rennes, Angers, France.

2 - EPSYLON EA 4556, Univ. Paul Valéry Montpellier 3, Univ. Montpellier, Montpellier, France.

3 - Coronel Institute of Occupational Health, Amsterdam Public Health research Institute, Amsterdam University Medical Centers, University of Amsterdam, Amsterdam, The Netherlands.

4 - Inserm, EHESP, Irset - UMR_S 1085, Univ. Angers, CHU Angers, Univ. Rennes, Angers, France.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Commentary

2 Introduction

3 Self-efficacy (SE) is a cognitive mechanism based on expectations or beliefs about
4 one's ability to perform actions necessary to achieve specific goals (Bandura, 1977,
5 1997). SE affects individuals' decision-making process and subsequent actions such
6 as engaging in physical activity, changing eating behaviours, managing cancer or
7 returning to work (RTW) (Bandura, 1977, 1997; Brouwer et al., 2009). The Attitude-
8 Social influence-self-Efficacy model (ASE model) indicated SE as one of the main
9 behavioural determinants for RTW in patients with musculoskeletal disorders
10 (Vermeulen et al., 2009). In relation to cancer, theoretical knowledge on behavioural
11 determinants, such as SE, is still limited (Duijts, Bleiker, et al., 2017; Duijts, van
12 Egmond, et al., 2017). Knowledge on the associations between SE and RTW would
13 allow appropriate interventions to be targeted to enhance cancer survivors' RTW
14 (Duijts, Bleiker, et al., 2017; Leensen et al., 2017).

15 In the literature concerning RTW following a cancer diagnosis, SE has been
16 categorised based on three broad domains of functioning: general-SE (Koch et al.,
17 2015), cancer management-SE (Bains et al., 2012) and job-SE / RTW-SE (Bains et
18 al., 2012; Leensen et al., 2017; Rosbjerg et al., 2020; Wolvers et al., 2018). Some
19 authors used a RTW-SE questionnaire to describe job-SE (Bains et al., 2012;
20 Wolvers et al., 2018) despite a temporal difference between RTW-SE and job-SE. On
21 one hand, the patient plans to RTW (RTW-SE). On the other hand, the patient has
22 RTW and plans to remain at work (job-SE). Therefore, special attention should be
23 paid to the vocabulary used to interpret results in order to avoid misunderstanding.

24 First, this commentary aims to clarify which of general-SE, cancer management-SE
25 or RTW-SE is the most relevant for occupational outcomes in cancer survivors.

Secondly, we aim to discuss the questionnaires used to evaluate RTW-SE in quantitative studies focusing on the RTW of cancer survivors. Finally, this commentary proposes possible interventions that could enhance RTW-SE, and explores future research perspectives.

General-SE, cancer management-SE and RTW-SE

According to Bandura (1997), it does not make sense theoretically to talk about general-SE. No significant relationship has been found between RTW of cancer survivors and general-SE or cancer management-SE, respectively (Bains et al., 2012; Koch et al., 2015). Conversely, cancer patients showing low levels of RTW-SE are more likely to be on sick leave upon diagnosis (Bains et al., 2012) and are more likely to have longer delays before full-RTW (Wolters et al., 2018).

The predictive power of RTW-SE on cancer survivors' RTW should be discussed. Rosbjerg et al. (2020) suggested that RTW-SE does not appear as the strongest predictor of RTW among cancer patients undergoing chemotherapy. However, the small sample size of this study does not permit any generalisation of this result (Rosbjerg et al., 2020). Among workers with psychological or upper-body musculoskeletal injuries, RTW-SE showed the strongest relationship with RTW (Black et al., 2018). Job-SE also showed a strong predictive association with remaining at work following a RTW attempt (Black et al., 2018).

To study the RTW process, there is a significant need to focus on RTW-SE. Complementary investigations, within a large sample, are therefore necessary to understand the strength of the association between RTW-SE and RTW in cancer patients.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1 Questionnaires to measure RTW-SE

2 Quantitative studies focusing on RTW-SE have generally used three questionnaires:

3 the RTWSE-19 (Shaw et al., 2011), the RTWSE-10 (Brouwer et al., 2011), or the

4 RTWSE-11 (Lagerveld et al., 2010).

5 The RTWSE-19 (Shaw et al., 2011) and the RTWSE-10 (Brouwer et al., 2011) aim to

6 assess workers’ beliefs about their current ability to resume normal job

7 responsibilities following pain onset among patients with musculoskeletal disorders.

8 Although they show good predictive validity for RTW of patients with musculoskeletal

9 disorders (Brouwer et al., 2011, 2015; Shaw et al., 2011), these questionnaires do

10 not appear totally appropriate for patients with cancer. These scales do not question

11 the patients’ beliefs in their abilities to face problems with decreased cognitive

12 functioning and increased emotional distress, induced by cancer treatments, in order

13 to RTW (de Boer et al., 2015; Duijts et al., 2014; Porro, Bertin, et al., 2019; Porro,

14 Michel, et al., 2019).

15 The RTWSE-11 (Lagerveld et al., 2010) integrates beliefs in the patients’ abilities to

16 support the physical (e.g., *“I can deal with the physical demands of my work”*), the

17 cognitive (e.g., *“I will be able to concentrate on my work”*), the emotional (e.g., *“I*

18 *won’t be able to complete my work tasks due to my emotional state”*), the relational

19 (e.g., *“I won’t be able to handle potential problems at work”*) and the professional

20 (e.g., *“I will be able to perform my tasks at work”*) aspects of the work environment

21 that have been identified as strong predictors of RTW following a cancer diagnosis

22 (de Boer et al., 2015; Gagnano et al., 2018; Porro, Bertin, et al., 2019). However,

23 there is no consensus on the factor structure of this questionnaire. Lagerveld et al.

24 (2010) defend a one-dimensional questionnaire without having used factor analysis

25 for validation. Conversely, exploratory and confirmatory analysis conducted by Silva-

Junior et al. (2018) yielded a bidimensional questionnaire. To increase knowledge on RTW-SE, the RTWSE-11 (Lagerveld et al., 2010) should be adapted for cancer survivors by using rigorous reliability and validity testing.

Interventions

An interventional study has been proposed by Leensen et al. (2017), that includes physical exercise and occupational counselling programmes aimed at enhancing RTW-SE, work ability, and finally, the RTW of cancer patients. Despite the fact that Leensen et al. (2017) showed significant increases in RTW-SE and subsequent RTW-SE over time, the study lacked a control group. To evaluate the effectiveness of interventions aimed at increasing RTW-SE, and promote RTW in cancer patients, randomised controlled trials should be conducted. For example, a meta-analysis conducted by Merluzzi et al. (2019) revealed medium effect sizes of complementary/integrative medicine, social support, cognitive behaviour therapy and self-management interventions in enhancing cancer patients' SE related to specific behaviours (e.g., pain, physical activity, coping with cancer, and stress management). This study also revealed a small/medium effect size of physical activity on cancer patients' SE (Merluzzi et al., 2019).

In order to improve RTW-SE, several possibilities could be taken into account. According to Bandura (1997), SE is enhanced through:

- *mastery experience*, which could be implemented by a progressive succession of small professional tasks that are easy to carry out (Gollwitzer, 1999).
- *vicarious experience*, which could be induced with support groups focusing on vocational rehabilitation after cancer (De Blasi et al., 2014).

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

- 1 • *verbal persuasion*, which could be articulated around positive discourse from
2 supervisors and colleagues (Greidanus, de Boer, et al., 2018; Greidanus,
3 Tamminga, et al., 2018).
- 4 • *physiological feedback*, which refers to a virtuous circle between enhancing
5 RTW-SE, RTW and promoting cancer management (Kennedy et al., 2007).

7 **Future research perspectives**

8 Leensen et al. (2017) observed temporal changes in RTW-SE followed by actual
9 RTW. However, not all cancer patients are able to develop RTW-SE. We therefore
10 hypothesise that there are several developmental pathways for RTW-SE.
11 Investigating developmental trajectories of RTW-SE, and identifying their association
12 with RTW over time, will allow for better identification of cancer patients at risk of
13 non-RTW, in order to improve supportive care. Furthermore, knowledge on the
14 developmental pathways of RTW-SE and its association with subsequent RTW will
15 allow the development of innovative interventions which could be aimed at improving
16 the RTW-SE of cancer patients, potentially leading to actual RTW.

18 **Conclusion**

19 RTW-SE is an emerging topic of interest in psycho-oncology for cancer patients who
20 have not yet RTW. Research in patients with other chronic diseases has highlighted
21 the importance of studying the association between RTW-SE and RTW (Black et al.,
22 2018). To make this research possible in cancer patients, it is important to use
23 reliable and valid measurements of RTW-SE. It also seems wise to investigate the
24 temporal aspects of RTW-SE developmental pathways because of the psychological
25 or physical changes cancer patients experience during their treatment. Interventional

studies should revolve around the improvement of RTW-SE by integrating a randomised controlled design that evaluates the effectiveness of these interventions in order to improve RTW after a cancer diagnosis.

References

- Bains, M., Munir, F., Yarker, J., Bowley, D., Thomas, A., Armitage, N., & Steward, W. (2012). The impact of colorectal cancer and self-efficacy beliefs on work ability and employment status: A longitudinal study: Colorectal cancer, work ability and employment. *European Journal of Cancer Care*, 21(5), 634-641. <https://doi.org/10.1111/j.1365-2354.2012.01335.x>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman & Company.
- Black, O., Keegel, T., Sim, M. R., Collie, A., & Smith, P. (2018). The Effect of Self-Efficacy on Return-to-Work Outcomes for Workers with Psychological or Upper-Body Musculoskeletal Injuries: A Review of the Literature. *Journal of Occupational Rehabilitation*, 28(1), 16-27. <https://doi.org/10.1007/s10926-017-9697-y>
- Brouwer, S., Amick, B. C., Lee, H., Franche, R.-L., & Hogg-Johnson, S. (2015). The Predictive Validity of the Return-to-Work Self-Efficacy Scale for Return-to-Work Outcomes in Claimants with Musculoskeletal Disorders. *Journal of Occupational Rehabilitation*, 25(4), 725-732. <https://doi.org/10.1007/s10926-015-9580-7>
- Brouwer, S., Franche, R.-L., Hogg-Johnson, S., Lee, H., Krause, N., & Shaw, W. S. (2011). Return-to-Work Self-Efficacy: Development and Validation of a Scale in Claimants with Musculoskeletal Disorders. *Journal of Occupational Rehabilitation*, 21(2), 244-258. <https://doi.org/10.1007/s10926-010-9262-4>

- 1 Brouwer, S., Krol, B., Reneman, M. F., Bültmann, U., Franche, R.-L., van der Klink, J.
2 J. L., & Groothoff, J. W. (2009). Behavioral Determinants as Predictors of Return to
3 Work After Long-Term Sickness Absence : An Application of the Theory of Planned
4 Behavior. *Journal of Occupational Rehabilitation*, 19(2), 166-174.
5 <https://doi.org/10.1007/s10926-009-9172-5>
- 6 De Blasi, G., Bouteyre, E., Bretteville, J., Boucher, L., & Rollin, L. (2014).
7 Multidisciplinary department of « Return to Work After a Cancer » : A French
8 experience of support groups for vocational rehabilitation. *Journal of Psychosocial
9 Oncology*, 32(1), 74-93. <https://doi.org/10.1080/07347332.2013.855961>
- 10 de Boer, A. G. E. M., Taskila, T. K., Tamminga, S. J., Feuerstein, M., Frings-Dresen,
11 M. H. W., & Verbeek, J. H. (2015). Interventions to enhance return-to-work for
12 cancer patients. *The Cochrane Database of Systematic Reviews*, 9, CD007569.
13 <https://doi.org/10.1002/14651858.CD007569.pub3>
- 14 Duijts, S. F. A., Bleiker, E. M. A., Paalman, C. H., & Beek, A. J. van der. (2017). A
15 behavioural approach in the development of work-related interventions for cancer
16 survivors : An exploratory review. *European Journal of Cancer Care*, 26(5),
17 e12545. <https://doi.org/10.1111/ecc.12545>
- 18 Duijts, S. F. A., van Egmond, M. P., Gits, M., van der Beek, A. J., & Bleiker, E. M.
19 (2017). Cancer survivors' perspectives and experiences regarding behavioral
20 determinants of return to work and continuation of work. *Disability and
21 Rehabilitation*, 39(21), 2164-2172. <https://doi.org/10.1080/09638288.2016.1219924>
- 22 Duijts, S. F. A., van Egmond, M. P., Spelten, E., van Muijen, P., Anema, J. R., & van
23 der Beek, A. J. (2014). Physical and psychosocial problems in cancer survivors
24 beyond return to work : A systematic review. *Psycho-Oncology*, 23(5), 481-492.
25 <https://doi.org/10.1002/pon.3467>

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36
- 37
- 38
- 39
- 40
- 41
- 42
- 43
- 44
- 45
- 46
- 47
- 48
- 49
- 50
- 51
- 52
- 53
- 54
- 55
- 56
- 57
- 58
- 59
- 60

- validation of a self-efficacy questionnaire. *Work & Stress*, 24(4), 359-375.
<https://doi.org/10.1080/02678373.2010.532644>
- Leensen, M. C. J., Groeneveld, I. F., Heide, I. van der, Rejda, T., van Veldhoven, P. L. J., Berkel, S. van, Snoek, A., Harten, W. van, Frings-Dresen, M. H. W., & de Boer, A. G. E. M. (2017). Return to work of cancer patients after a multidisciplinary intervention including occupational counselling and physical exercise in cancer patients: A prospective study in the Netherlands. *BMJ Open*, 7(6), e014746.
<https://doi.org/10.1136/bmjopen-2016-014746>
- Merluzzi, T. V., Pustejovsky, J. E., Philip, E. J., Sohl, S. J., Berendsen, M., & Salsman, J. M. (2019). Interventions to enhance self-efficacy in cancer patients: A meta-analysis of randomized controlled trials. *Psycho-Oncology*, 28(9), 1781-1790.
<https://doi.org/10.1002/pon.5148>
- Porro, B., Bertin, M., Bonnaud Antignac, A., Petit, A., Cousson-Gélie, F., & Roquelaure, Y. (2019). Assessment of psychosocial dimensions of return to work after a cancer diagnosis: Current perspectives and future opportunities. *Psycho-Oncology*, 28(12), 2429-2431. <https://doi.org/10.1002/pon.5235>
- Porro, B., Michel, A., Zinzindohoué, C., Bertrand, P., Monrigal, E., Trentini, F., Baussard, L., & Cousson-Gélie, F. (2019). Quality of life, fatigue and changes therein as predictors of return to work during breast cancer treatment. *Scandinavian Journal of Caring Sciences*. <https://doi.org/10.1111/scs.12646>
- Rosbjerg, R., Hansen, D. G., Zachariae, R., Hoejris, I., Lund, T., & Labriola, M. (2020). The Predictive Value of Return to Work Self-efficacy for Return to Work Among Employees with Cancer Undergoing Chemotherapy. *Journal of Occupational Rehabilitation*. <https://doi.org/10.1007/s10926-020-09882-2>
- Shaw, W. S., Reme, S. E., Linton, S. J., Huang, Y.-H., & Pransky, G. (2011). 3rd

- place, PREMUS best paper competition : Development of the return-to-work self-efficacy (RTWSE-19) questionnaire--psychometric properties and predictive validity. *Scandinavian Journal of Work, Environment & Health*, 37(2), 109-119. <https://doi.org/10.5271/sjweh.3139>
- Silva-Junior, J. S., Souto, E. P., Fischer, F. M., & Griep, R. H. (2018). Validity and test-retest reliability of the Brazilian version of the Return-to-work self-efficacy questionnaire. *Revista De Saude Publica*, 52, 65. <https://doi.org/10.11606/S1518-8787.2018052000237>
- Vermeulen, S. J., Anema, J. R., Schellart, A. J., van Mechelen, W., & van der Beek, A. J. (2009). Intervention mapping for development of a participatory return-to-work intervention for temporary agency workers and unemployed workers sick-listed due to musculoskeletal disorders. *BMC Public Health*, 9(1). <https://doi.org/10.1186/1471-2458-9-216>
- Wolvers, M. D. J., Leensen, M. C. J., Groeneveld, I. F., Frings-Dresen, M. H. W., & De Boer, A. G. E. M. (2018). Predictors for earlier return to work of cancer patients. *Journal of Cancer Survivorship*, 12(2), 169-177. <https://doi.org/10.1007/s11764-017-0655-7>