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# **From shaky grounds to solid foundations: A salutogenic perspective on return to work after cancer**

## **Abstract**

**Background:** Almost a third of employed individuals of working age fall out of work after cancer treatment.

**Aim:** To explore cancer survivors' successful return to work, focusing on assets and resources utilised to resolve cancer- and work-related obstacles to achieve long-term employment.

**Methods:** We interviewed eight cancer survivors who had remained at work for at least 3 years after cancer treatment. We performed interpretative phenomenological analysis and applied Antonovsky's salutogenic model of health as a framework.

**Results:** The participants experienced uncertainty regarding cancer recurrence, impairments, and long-lasting effects on work ability. They utilised a wide range of resistance resources at personal, interpersonal, and social levels. Their determination to return to work was generally strong, but the time needed to find sustainable work and strategies to return to work varied. All participants prioritised activities that energised them and adapted actively to their new situation. When unsure about outcomes, they focused on the best alternative and controlled fear cognitively.

**Conclusions/Significance:** Finding meaningful activities, testing actual work ability, and focusing on the best possible outcome seemed important to remain in work after cancer. It may be helpful to identify available resources and utilise them to resolve tensions resulting from cancer and cancer treatment.

**Keywords:** Survivors, Cancer, Return to Work, Health Promotion, Health Behaviour, Coping

## **Introduction**

The incidence rate of cancer in Western and Nordic countries is increasing; simultaneously, a higher proportion of individuals are surviving cancer than before [1–3]. As only 60%–70% of cancer survivors of working age return to employment and more than half of them report occupational changes, it appears that cancer survivors are at risk of falling out of work [4]. Return to work (RTW) after cancer is a complex process, and cancer survivors may experience a double loss: the loss of health and of sustainable employment [5].

Common late effects after receiving cancer treatment include fatigue, loss of strength and/or concentration, and sleeping difficulties; hence, sickness-related absence from work for a long period of up to 1 or 2 years is common [4], which may in turn distance the survivor from the workplace. Therefore, collaboration with the employer is important for successful RTW [6,7]. In addition, financial pressure may push cancer survivors to return to work too early, and limited work ability due to physical or mental adverse effects may require changes in working hours, type of work, and work tasks [7–10]. Moreover, occupation and work are often strongly connected to identity, and the inability to regain employment may thus represent a personal defeat [11,12].

Over the last few decades, research has increased our knowledge on people's RTW processes after cancer, with several conceptual models and frameworks offering new perspectives to understand individual processes [4,13,14]. However, few studies have so far adopted an assets approach, such as the salutogenic perspective, which, in the future, may lead to new perspectives and to health promotion programs that focus on individuals' available resources and how to utilise them to neutralize negative consequences from life event stressors [15,16]. Salutogenesis represents a theoretical framework for health and health promotion research and practice [16] in which the central focus is not the disease but the factors that promote health, well-being, and quality of life [16–18]. Aaron Antonovsky (1923–

1994) developed his salutogenic model of health from the perspective that stressful events are an inevitable part of life and that well-being, health, and outcomes are dependent on how individuals *respond and adapt* to what happens to them [15]. When tensions from cancer (defined in this model as a *life event stressor*) resolve, movements towards ‘ease’ (on the health continuum of ‘ease–dis-ease’) may take place. A movement on the continuum towards ‘ease’ is not dependent on the absence or presence of disease. Dis-ease is written with a hyphen to clearly distinguish this term from the term representing the concept of a medical condition; here, the term is instead used to indicate a feeling of *not* being at ease.

Crucial to overcoming and resolving such tensions are the available generalised and specialised resistance resources (GRRs/SRRs) and sense of coherence (SOC) [15,19]. A GRR is any characteristic of the individual or of the social or physical environment that can facilitate effective tension management. Antonovsky described eight different GRRs: physical, biochemical, artefactual-material, cognitive, emotional, valiative-attitudinal, interpersonal, and macro-sociocultural [15]. SRRs also constitute available resources, but in this case, the resources are specific to the actual event, context, or situation. Moreover, individuals’ global attitude towards what happens to them in life includes whether they perceive themselves to have the necessary resources to manage a given situation. Antonovsky labelled this attitude SOC [19] and argued that it involves three main aspects: experiencing life as meaningful, comprehensible, and manageable. GRRs facilitate coping with stressors and may strengthen SOC [19,20], which, in turn, according to the theory, also influences the ability to utilise GRRs [19].

Van Egmond et al. [5] found that cancer survivors could experience the loss of both their health and their job, especially if adjustments at work are not possible after treatment. Other researchers have emphasised the importance of balancing job demands and resources and found that when individuals experience meaningfulness, manageability, and

comprehensibility at the workplace, working may even promote health [21,22]. According to Antonovsky [18], work may be health-promoting because it represents a major element of one's place in society, generally providing financial reward, intellectual development, social co-operation and networking, and a sense of being needed and valued [18]. One study showed that a strong SOC was associated with a higher likelihood of RTW after being on sick leave [14], and several studies have found that personal beliefs about and expectations of successful RTW are important predictive factors for it [14,23,24]. Positive beliefs about the future have also been regarded as an important factor in health and well-being [25].

### ***Aim***

According to our knowledge, no studies have focused on tensions, GRRs and SRRs according to Antonovsky's salutogenic model of health [15] in the processes of RTW or vocational rehabilitation after cancer. Therefore, the aims of this study were (1) to explore the tensions experienced by long-term cancer survivors during cancer treatment and RTW; and (2) to investigate the GRRs and SRRs they utilise in their progress towards sustainable RTW.

### **Material and methods**

We adopted a qualitative approach and applied the interpretative phenomenological analysis (IPA) methodology [26,13] to explore how participants perceived the processes and factors that support and reinforce sustainable work. During the interview and analysis phase, an advisory team was active and contributed as co-researchers to improve quality in every phase of the project. The advisory team included seven individuals who were one or more of the following: a cancer survivor, health and social work personnel, a medical doctor, the boss and/or a next of kin to a person treated for cancer.

Next, we used Antonovsky's salutogenic model of health [15] as a framework to organise the inductive findings. Finally, we applied the consolidated criteria of the Reporting Qualitative Research (COREQ) Checklist before reporting this qualitative study [27].

### ***Participants***

We aimed for recruiting participants who had worked for at least 3 years after their last treatment, part-time or full-time, and who had had no recurrent cancer or new diseases influencing their work during that period. In addition, they should have undergone treatment that included surgery, chemotherapy and/or radiation therapy. We recruited participants through advertising on Facebook, relevant Internet sites, and the Norwegian Cancer Society, and by use of the snowballing technique. Twelve potential participants volunteered and nine were recruited based on the inclusion criteria. One of the nine participants recruited was not interviewed because it became too difficult to find a place and time for the interview. The eight participants interviewed were diverse in terms of cancer type, occupations/work tasks, incomes and gender. Age at the time of cancer diagnosis ranged from 30 to 54 years, and age at the time of the interview ranged between 42 and 59 years. The average time elapsed since the last treatment was 9 years (Table 1). Following the IPA methodology, we analysed each interview to completion before planning the following one.

(Insert Table 1 about here)

### ***Data collection***

The advisory team participated in designing and testing of the interview schedule [26] which was developed based on our aims, a health promotion approach, and the current knowledge on cancer and RTW (Table 2). Subsequently, open questions based on topics of the interview

schedule were used to construct tailor-made semi-structured interviews, instead of strictly following a predefined sequence of questions. This allowed the interviewer to foster a reflective dialogue, which is recommended when using the IPA methodology [26]. The interview schedule was reviewed when approaching the end of each interview and additional questions were asked to explore and deepen the topics presented in Table 2 if not appropriately covered. Creating reflective dialogues were helpful in avoiding unequal power dynamics during the interviews [28]. The interviews were conducted in private locations to avoid disturbances; three participants preferred their homes, and five chose their workplace. The first author performed and videotaped all interviews, which lasted an average of 96 minutes. Field notes were taken immediately after the interviews.

After the eighth interview, the data quality was evaluated by all authors [13], and the information power was assessed [29]. Based on the data content that represented in-depth explorations and on the quality of dialogues, the collected data were found to be sufficient in covering the aims of the study. Thereafter, we stopped further recruitment, and instead, decided to reflect on the preliminary findings with some participants. For this reflection on preliminary findings we selected three participants with whom we also wanted to explore further some of the topics they had mentioned in the first interview. All agreed to be re-interviewed, and adding these subsequent interviews resulted in a total of 11.

### ***Data analysis***

The software NVivo 11 [30] was used to organise, code, and file all videos, notes, mind maps, memos, abstractions, and other data. The first author coded all data material following the IPA analysis phases [26]: a) before the iterative and inductive cycle started, the interview video was listened to and watched several times; b) general notes and thoughts were written down in memos and linked to the data; c) the deeper analysis phase started with initial noting,

where descriptions, thoughts, and interpretations from the conversation were written down and linked to the relevant video sequences/text; d) descriptive, conceptual, and linguistic comments were noted, as was body language; e) important statements were transcribed verbatim and added to the textual notes; f) emergent themes were developed and interlinked; and g) finally, the themes were abstracted into a mind map of subordinate themes for the case.

After the eight interviews were analysed case by case, the search for patterns across the cases began. We utilised NVivo [30] mind maps and project maps of the coding from the case analyses, and both the advisory team and the participants during the re-interviews were highly engaged as co-researchers in the analysis process and contributed to the discussion of the themes and abstractions. This inductive process resulted in mind maps containing overall coding trees of themes and abstractions.

Subsequently, we aimed to explore our findings from the perspective of the salutogenic model of health [15], conducting a deductive analysis using this theoretical model as a framework [31,32]. First, we extracted all the data and findings from the initial inductive analysis stored in NVivo [30]. Second, we reorganised the data into the components of the salutogenic model of health. Next, we analysed the data for each component to find new meaningful themes and categories [32]. This process included several iterations between the text and codes in order to understand the participants' entire context as well as their original statements and their meanings [31]. The categories from this analysis were abstracted into overall themes. Finally, we extracted the main findings and relevant quotes accordingly.

### ***Ethical considerations***

The Regional Committee for Medical and Health Research Ethics (REK) evaluated and approved the project in spring 2015 (reference no. 2015/1232). Before participants provided their decision on participation, the first author telephoned the potential participants to inform

them about the aims of the study. If the potential participant agreed to undergo the interview and was a candidate according to our inclusion criteria, an email was sent for confirmation, containing detailed written information about the study. Although their cancer treatment had been finished years ago and the participants had recovered from cancer and had returned to sustainable work, we were aware that the interview might carry the possibility of re-traumatisation by what they had experienced because of their cancer. The participants were informed about this possibility and told that they could contact the interviewer to arrange a meeting with a psychologist if needed. Participants were also informed orally and in writing about their right to withdraw from the study without any consequences. The informed consent form was signed before the interviews took place. All electronic data and materials were stored on a secure server.

## **Results**

In this section, we present in detail some prominent findings related to tensions and GRRs, which we consider to be of particular interest and importance for practitioners and scholars interested in cancer survivors' RTW. For simplicity, we have chosen to present the SRR findings together with the categorised GRRs. Despite different contexts, personal preferences, and situations, we found several striking parallels among participants' descriptions of tensions and their utilisation of resistance resources during their cancer treatment and RTW.

### ***Stressors and tensions from uncertainties***

According to the salutogenic theory, cancer was a life event stressor that had a major impact on participants' lives by resulting in tensions affecting the participants' work ability and their relationships with family, colleagues, and even others from broader social contexts. All tensions had one thing in common: they represented a feeling of uncertainty.

### *Fear of dying and recurrence of cancer*

During diagnosis and subsequent treatment, fear of dying was a main theme. One participant, Carl, explained how he reacted upon receiving the diagnosis:

I think people do not realise what it means that we are all going to die one day. I believed I knew that, but I had not fully comprehended what it meant. And suddenly I realised it, and that was heavy to deal with.

During cancer treatment, most participants felt more ill from diverse physical, emotional, and mental effects of the treatment than from the cancer, which sustained their fear of dying. Grete described this state as follows:

It felt like my nerves were placed outside my body. It was hard to have a daughter, 4 years old, saying, 'I can hold the bucket for you, mommy!' (...) Some days were as black as night.

After the cancer treatment was completed, the feelings of fear and anxiety shifted from an acute fear of death towards a fear of cancer recurrence. The participants felt worried before cancer follow-up checks, and they constantly had to process their thoughts about the future and the risk of cancer recurrence, which represented a chronic vulnerability. Anne explained it as follows:

It is a kind of vacuum after the treatment. (...) I still had a lot of questions, and when I approached the time for new follow-up checks, I felt like I had cancer all over again.

### *Uncertainties about work ability*

Some participants had to learn to live with chronic late effects from the treatments, and all described major exhaustion and loss of energy caused by treatment, as well as needing time to adjust. Participants returned to work at different times during or after their course of treatment, and in different ways. They all stated that they perhaps returned too early, even

though they were bored at home or felt ready for work. Some experienced major late effects influencing their working ability, such as aphasia, fatigue, concentration difficulties, anxiety, and more. Two participants decided to quit their former jobs after making efforts to fulfil their job responsibilities for up to 2 years. Despite employers' efforts to adjust the working hours at the beginning of the RTW process, they were unable to perform as before and needed sick leaves repeatedly due to late effects from cancer or its treatment. For example, Finn experienced after some time that when he began appearing physically better, his employer increased his working expectations, which Finn was unable to fulfil. Similarly, Britt also reported that the increased working hours led to difficulties in her RTW as a customer advisor:

I did not feel good at all. (...) My eyes turned red from dryness after 1 hour, I felt awkward because I sometimes fell to the floor without any warning, and my memory did not work at all. I had to write everything on yellow post-it notes that I carried in my pocket at all times. (...) Despite the fact that I did not manage to work, the working hours increased. I had to sleep when I got home from work and was not able to organise anything at home.

### ***Resolving tensions from uncertainties by utilising GRRs***

All participants were very determined to return to employment. They adapted to upcoming challenges and opportunities, or they changed their circumstances by seeking further education or finding a new occupation.

#### *Physical, biochemical, and artefactual-material GRRs*

The participants' physical and biochemical status, described as aspects of the GRRs in Antonovsky's salutogenic model of health, was unknown. However, all participants worked full time, and, regarding artefactual-material GRRs, had a solid base when diagnosed with

cancer. All participants were working, received an income, and had a spouse who provided a second income (an interpersonal GRR) at the time of cancer diagnosis. However, some divorced during treatment and the RTW process. They all nevertheless had some financial security, as they received benefits through the Norwegian public welfare system (a macro-sociocultural GRR) that covered 100% of their former salary during the first year on sick leave.

### *Cognitive and Emotional GRRs*

All participants expressed that they mostly felt the RTW process was dependent on themselves and that they had decided not to give up. Anne explained it as follows:

I am not giving up. Ever. I am stubborn and headstrong. (...) My aim all the way was to live normally, only a bit slower.

When the participants experienced uncertainties due to late effects of cancer treatment, or when their thoughts about cancer recurrence led to worries and fears, they handled their emotions by actively controlling their thoughts. Furthermore, they chose to believe in the best alternative. Eva explained this quite clearly as follows:

My mind works like nothing is wrong until it is proven. (...) I do not wish to spend energy on things that might not happen. (...) I have a long practice of being scared. I am used to that by now, and I am controlling my emotions with my thoughts. I dare to do a lot because I dare to be scared. I dare to be unsure. It is all about handling the emotions, and intellectually, I always choose the best alternative. If I do not know the answer, I am better off choosing the best alternative.

The participants demonstrated how they did 'reality checks' to orient themselves about their situation and ability to work. Grete explained her reasoning as follows:

My boss called me and asked if I was interested in working some days or hours. I answered, ‘I am not sure how many hours I can work yet, but I would rather work a few hours every day than work a full day, and not work at all the next.

Some participants faced challenges related to their own identity when they failed to cope with tasks in their jobs, which forced them to make major occupational changes, or when they wanted to dedicate themselves to some meaningful and/or self-fulfilling occupation. Finn applied for a new type of job after being on recurrent sick leaves due to fatigue and not being able to perform his work tasks over time; Anne sought new education because she prioritised following her dreams; and Britt—after being forced onto disability benefits due to completely failing in her former job—became a volunteer because she wanted to help others. In this way, they re-formulated their job role identity over the years after the cancer treatment finished. Through her voluntary work, Britt was later offered a part-time paid position. The tasks were meaningful and she felt valued, which led to increasing success and, eventually, sustainable RTW. She ended up upgrading her position to full time after some years and explained how as follows:

It was important for me that somebody believed in me. (...) So, I was really on fire when that happened. It was that continuing way upwards (she raises her arm, smiles, and points towards the sky) that made it possible for me to work!

Carl returned to his former job, and expressed very directly how he focused on it:

I am not sure if I am mentally strong or mentally healthy. I recognise my emotions. I had to clean up my mind and move on. I think it is important not to be stuck on what happened.

#### *Valuative-Attitudinal GRRs*

The participants frequently used the word ‘energy’ during the interviews, and they gave priority to what energised them at work and privately. They explained how they actively,

consciously turned away from people whom they experienced as draining their energy. Anne put it like this:

Some of the friends I had before were negative and sucked my energy ... (sigh of disapproval) ... they just had to go away. I did not bother to use my energy on them anymore.

In addition, participants found energy in performing activities where personal creativity was possible: singing, playing an instrument, cooking, or painting. They explained how they prioritised activities that made them feel better and mentioned that the cancer experience prompted them to change their lifestyle in different ways, such as changing their diet, exercising more, etc. Some of these activities represented or came to represent SRRs, in that the cancer was the reason for engaging in them. For instance, participants described how different 'self-therapies' such as painting or blogging were valuable to them. Grete started blogging during the cancer treatment and kept family and friends informed of what was going on at all times through her blog posts. The blog became an instrument for processing her thoughts and feelings as well as a way to avoid repeating or explaining to many people what happened.

I just advised people to read my blog, and then I did not have to talk that much about it.

#### *Interpersonal GRRs*

While Grete preferred not to talk too much with others about what she went through, Carl was almost the opposite and explained how he was open about his illness with his colleagues at work and how this helped him:

I spent a lot of time sharing my story (at work). That was helpful for me because I processed a lot by doing that. Besides, when people at work knew, it made it easier for

me to be at work because I felt allowed to be somewhat sick at work. To be working meant a lot to me.

Participants showed differences in their level of need to tell or discuss with others what they were experiencing or had experienced in relation to cancer and its treatment. Still, all participants endured hard times during the treatment and recovery periods. They were able to do so in part by focusing on their closest relationships that represented hope during cancer treatment, for instance, by fostering their dreams about seeing their children grow up. Daniel explained how important both his family and wider network were:

Without my family, I would have never made it. (...) Without my network (at work) and my optimism, I would have been stuck in a corner ... waiting for something to happen. (...)

While some participants found strength in spending time together with close family members, friends, or colleagues, Anne also found it meaningful to work in her garden and take care of her animals. Eva expressed that during her treatment, she hid how ill she felt from her family, and she withdrew from her colleagues because she did not want them to worry or feel sorry for her.

#### *Macro-sociocultural GRRs*

The public welfare system in Norway is one of the most generous in the world, at least for salaried people. When sick-listed in Norway, most workers are guaranteed 100% of their income from the first day of the first 12 months, and then 66% of the income in the second year. All participants received sickness absence benefits that compensated their loss of income. In addition, all Norwegian citizens have the same right to be treated and hospitalised when ill, ensuring that everybody receives the same treatment for free. With one exception, the participants did not rush to return to employment because of their financial situation but because they wanted to do so. Anne, however, was concerned about her income. Therefore,

she started to work again about 12 months after she had taken sick leave and continued to work during her treatment.

Some were bored at home on sick leave and returned to work even before the treatment was finished, while others waited longer. When they did return, participants experienced energy gain by being part of working life once more, and some of them found that when working, they could distance themselves from their disease. Grete appreciated what her employer had to offer:

Work made me stop thinking about the illness. Like, really, I feel very ill today, but if I concentrate on posting these transactions, then I will not think about the ill-feeling while I am working. It is really a kind of 'psyche survival' to have the opportunity to be valued at work when feeling so ill.

Some workplaces offered participants returning to work adjustments such as letting them increase working hours and/or tasks gradually, making the RTW process possible and/or easier. Those who were in that situation found it beneficial to start at a slower pace.

While Grete valued sitting alone occupied with bookkeeping and being able to pace her tasks according to her own tempo, Finn was especially focused on the social environment:

When I returned to work and met people, socialising, it increased my quality of life directly ... for me that meant a lot.

During the process, most of the participants found strength and comfort in conversations with doctors, nurses, or other health service personnel. Carl attended a program for cancer survivors (representing a SRR) and felt that he benefitted from it:

A psychologist taught me techniques for handling panic attacks, which I often had at work in the beginning. When it happened, I instantly went to the bathroom, started breathing exercises, and processed my thoughts. That was really helpful.

## **Discussion**

The cancer survivors in our study reported severe tensions during the RTW period: a) uncertainty about survival and cancer recurrence and b) uncertainty about future working abilities. They utilised a variety of available resources to manage these challenges (GRRs/SRRs).

### ***Tensions from uncertainties***

Our finding regarding the overarching theme of ‘uncertainties’ is consistent with that of Shilling et al. [33] with caregivers, i.e. uncertainties related to lack of control over the disease trajectory and to limitations in the ability to make plans for a future RTW were crucial obstacles for cancer survivors. The participants in our study described their motivation to return to work as being higher than their actual work ability when they returned to work initially. When they experienced impairments and obstacles due to not being able to manage their working tasks as before, they became more doubtful about their future work ability and worried that the impairments would last; in addition, they worried about the recurrence of cancer. Our findings may differ slightly from those of other studies, as we investigated cancer survivors’ RTW many years after their last treatment [14,23,34]. We found that the first attempt to return to work did not necessarily last for long and that, after a certain amount of time, some participants engaged in job changes in order to be able to follow their dreams or simply because they could not cope in their former job.

According to Antonovsky [15,19], tension management depends on being able to resolve tensions by utilising available GRRs/SRRs. Furthermore, he described tensions as having negative, neutral, or positive consequences [15]. This entails that despite difficulties and perceived negative consequences, such as living with cancer and persistent late effects

from doing so, a final positive outcome may still happen. Studies have shown that when trauma-related tensions are neutralised, personal growth may follow [19,35–37]. The cancer survivors in our study reported tensions with potential and actual negative consequences but, ultimately, all experienced personal and work-related growth. They managed to return to sustainable work and demonstrated rather well-functioning lives from a long-term perspective.

### ***Individual GRRs***

Antonovsky [15] described the physical and biochemical factors as relevant GRRs. None of the participants mentioned such factors as important in managing their cancer or returning to work after treatment. However, they were more concerned about the importance of being mentally strong. One of the most interesting findings was the participants' ability to control their thoughts and fight negative emotions such as fear of future cancer recurrence and worries about the effects on their working abilities. We understand this to be a case of utilising cognitive and emotional GRRs [15]. Another example of the use of cognitive GRRs was that all participants claimed their most important asset was their decision to never give up on their RTW. Positive beliefs about the future have been shown to moderate successful RTW [15,25].

Focusing on positive aspects, identifying one's own strengths, and increasing RTW beliefs can all be discussed within the frame of positive psychology, which emphasises the importance of positive thinking when confronted with stressors and tensions [25]. However, strong objections have also been made towards 'thinking positively' [38–40], partly because this application of positive psychology may easily be mistaken as advising individuals to always stay positive, thus possibly leading them to incorrectly believe that they may actually cause negative outcomes if they happen to feel anxious, worried, or frightened. In addition,

RTW is a very complex process involving personal, medical, and work-related factors [41]. Positive thinking can be a too simplistic solution in such difficult and complex situations. Nevertheless, participants in the present study underlined that when dealing with negative emotions and thoughts, their positive attitude was an important factor that led to fruitful actions and efforts. Such attitudes and ways of meeting obstacles and challenges are in line with Antonovsky's definition of a strong SOC [19]. The participants in our study actively acknowledged their fears and doubts and were thus able to control them, remain realistic about their situation, and to choose to believe in the likelihood of the best outcome. This also seemed to allow them to move forward and keep up the struggle despite obstacles and ongoing tensions from the late effects of cancer.

The participants in our study tested their work abilities in actual practice, and if work tasks were not manageable over some time and adjustments were not possible, they showed adaptability by moving on and searching for something new. When participants found meaningful and manageable activities and/or (new) positions, they gained renewed energy and strength to work through the challenges of exhaustion and other late effects. In the context of RTW after cancer and according to Antonovsky's salutogenic model of health, the practice of searching for meaningful activities may be regarded as a coping strategy representing an important valiative-attitudinal GRR [15]. Engaging in meaningful activities in general may be a precondition for perceived good mental health [42]. In addition, participants prioritised engaging in social relations (interpersonal GRRs), which helped them feel better.

### ***Interpersonal GRRs***

In addition to their social relationships in the workplace, the participants highlighted the importance of family and friends. All participants lived with their partner at the time of their

cancer diagnosis, and some had small children, which represented a basic interpersonal GRR [15]. Paltrinieri et al. [41] similarly found in their review that living with a partner and children was positively associated with RTW among cancer survivors. Some participants in our study emphasised that their closest relationships were crucial for them to cope and for their RTW. In addition, the participants prioritised spending time with people and family members who brought positive energy. This suggests an awareness of one's own needs in relation to those around one (interpersonal GRR) and the importance of coping strategies that work at an interpersonal level (valuative-attitudinal GRRs). Antonovsky also claimed that social relationships are important at work as well as in private life [18]. Indeed, participants in our study valued both being at work per se and being part of a social working environment.

### ***Macro-sociocultural GRRs***

Work was important for all participants and became an important GRR in itself, as noted. This finding confirms earlier research reporting the importance of work for the well-being and mental health of individuals in general [4,34,43,44]. When work tasks were meaningful and manageable, the work itself and social reintegration with colleagues also seemed to help the participants distance themselves from their feelings of being ill and made it easier to believe in the best outcome (utilising valuative-attitudinal GRRs). The workplace setting represented a macro-sociocultural GRR that offered the participants reintegration into an environment identified with normality and one where they felt valued [12,45].

Studies showed that financial worries and reduction in income are common among cancer survivors and can generate uncertainty about the future [33,46]. Owing to the relatively generous public welfare benefits in Norway, the participants in our study managed to maintain an adequate income during and after treatment. Antonovsky [15] defined the individual's financial situation primarily as an artefactual-material GRR, but, in our view, it

may also be seen as a macro-sociocultural GRR since Norway's healthcare and prevention policy is strongly engaged in promoting employment and establishing welfare benefits for the workforce on sick leaves, as well as offering coverage of salary and of expenses during hospitalisation. Our impression is that it was not financial pressure that motivated our study participants to return to employment, but the urge to harvest positive effects such as social stimulation from healthy people and a state of normality generated by working.

### ***Salutogenic model of health and future rehabilitation programs***

Healthcare and the public welfare system in Norway may be regarded as GRRs since all citizens have the right to receive the same treatment and considerable financial support during work absence due to sickness. Viewed from an individual perspective, personnel and special programs designed for an individual or group have the potential to be SRRs as well, as exemplified by Carl in our study, who attended a special program where he learnt to deal with his anxieties. However, the complexity of RTW after cancer may lead to various tensions and obstacles that might influence individuals very differently [4,47]. Considering how diverse the processes and situations of different cancer survivors could be, and based on our findings, we agree with previously made suggestions of making support systems more flexible so that they can be tailored individually [4,5,48].

We believe that the participants in our study had a strong SOC [19], as this is associated with many of the characteristics expressed by them. Individuals experiencing poorer mental health, a weaker SOC, or less available GRRs/SRRs than the participants in our study may need more support from health care personnel or social services to ease their RTW processes. We, therefore, agree with the suggestions of Opsahl et al. [24] to screen workers on long-term sick leave regarding their expected future work ability and to find ways to support

those who score low, for instance by offering cognitive behavioural therapy or improved work environmental factors.

### **Methodological considerations**

The selected participants were included because they had returned to sustainable work; therefore our findings only describe and identify tensions and GRRs experienced by this group, and not by other cancer survivors that did not succeed in their RTW; the findings do not describe how the participants differ from those who did not succeed. If we had included cancer survivors that failed to return to sustainable work, we might have obtained a better overall understanding of RTW processes among cancer survivors.

It can be difficult to recall details from incidents that occurred up to 14 years previously, and the participants' memories or stories may therefore differ from their actual experiences of what happened. Nonetheless, our impression was that the participants' memories seemed not to have faded because they told their stories fluently and in a lively manner. Moreover, they answered detailed questions without hesitation. The strengths of our methodology includes its thorough and transparent research method along with a focus on reflectivity during all phases [26,32,49]. Three participants were re-interviewed and contributed in validating the findings; in addition, the advisory team, with its wide-ranging experience in cancer and cancer survival, ensured the trustworthiness of the data by providing corrections and suggestions for our analyses.

More research is needed to investigate assets, working patterns, and whether there may be differences between the experiences gathered here and those of certain subgroups of cancer survivors—for instance, those living without partners or close family members, those who are self-employed, or those with low education and income.

## **Conclusions**

The participating cancer survivors described tensions after cancer treatment that occurred in the form of long-term vulnerability related to work ability, and regarding the possible recurrence of cancer. They varied in what kind of resources they utilised to achieve sustainable work, but they all emphasised the importance of their own ability to control their thoughts and their focus on the likelihood of the best alternative when uncertain about the outcome. It also seems crucial for cancer survivors to test their actual working ability and to find meaningful and manageable work tasks. For people supporting cancer survivors in their efforts to achieve sustainable RTW, we recommend focusing on the individual resources (GRRs/SRRs) available during the process and on how to resolve personally perceived tensions resulting from cancer, cancer treatment, and the resulting obstacles in working life. It may be important to assist cancer survivors to accept uncertainties while at the same time helping them search for people, activities, and support systems that energise them.

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## References

1. Cancer Registry of Norway. Cancer in Norway 2015 - Cancer incidence, mortality, survival and prevalence in Norway. Oslo: Cancer Registry of Norway; 2016.
2. Danckert B, Ferlay J, Engholm G, et al. Cancer Incidence, Mortality, Prevalence and Survival in the Nordic Countries. NORDCAN (Version 8.2 ) [Internet]. 2019 March 26 [cited 2019 May 02]. Available from: <http://www.ancr.nu>
3. Torre LA, Bray F, Siegel RL, et al. Global cancer statistics, 2012. *CA Cancer J Clin*. 2015;65(2):87–108.
4. Mehnert A. Employment and work-related issues in cancer survivors. *Crit Rev Oncol Hematol*. 2011;77(2):109–130.
5. Van Egmond MP, Duijts SFA, Loyen A, et al. Barriers and facilitators for return to work in cancer survivors with job loss experience: a focus group study. *Eur J Cancer Care*. 2017;26(5):e12420
6. Mehnert A, De Boer A, Feuerstein M. Employment challenges for cancer survivors. *Cancer*. 2013;119(S11):2151–2159.
7. Grunfeld EA, Low E, Cooper AF. Cancer survivors' and employers' perceptions of working following cancer treatment. *Occup Med*. 2010;60(8):611–617.
8. Knott V, Zrim S, Shanahan EM, et al. Returning to work following curative chemotherapy: a qualitative study of return to work barriers and preferences for intervention. *Support Care Cancer*. 2014;22(12):3263–3273.
9. De Boer AGEM, Verbeek JHAM, Spelten ER, et al. Work ability and return-to-work in cancer patients. *Br J Cancer*. 2008;98:1342–1347.
10. Torp S, Nielsen RA, Gudbergsson SB, et al. Worksite adjustments and work ability among employed cancer survivors. *Support Care Cancer*. 2012;20(9):2149–2156.
11. Little M, Paul K, Jordens CFC, et al. Survivorship and discourses of identity. *Psychooncology*. 2002;11(2):170–178.
12. Dorland HF, Abma FI, Roelen CAM, et al. Factors influencing work functioning after cancer diagnosis: a focus group study with cancer survivors and occupational health professionals. *Support Care Cancer*. 2016;24(1):261–266.
13. (Hiding this reference due to potential blind review and reference of methodology that reveals identity of author)
14. Falkdal AH, Edlund C, Dahlgren L. Experiences within the process of sick leave. *Scand J Occup Ther*. 2006;13(3):170–182.
15. Antonovsky A. Health, stress and coping. San Francisco: Jossey-Bass Publishers; 1979.
16. Antonovsky A. The salutogenic model as a theory to guide health promotion. *Health Promot Int*. 1996;11(1):11–18.
17. Lindström B, Eriksson M. The hitchhiker's guide to salutogenesis: salutogenic pathways to health promotion. Helsinki: Folkhälsan Research Centre; 2010.
18. Antonovsky A. Health promoting factors at work: the sense of coherence. In: Kalimo R, El-Batawi MA, Cooper CL, editors. Psychosocial factors at work and their relation to health. Geneva: World Health Organization; 1987. p. 153–167.
19. Antonovsky A. Unraveling the mystery of health. how people manage stress and stay well. San Francisco (CA): Jossey-Bass Inc.; 1987.

20. Idan O, Eriksson M, Al-Yagon M. The salutogenic model: the role of generalized resistance resources. In: Mittelmark MB, Sagy S, Eriksson M, et al., editors. *The handbook of salutogenesis*. Cham: Springer International Publishing; 2017. p. 57–69.
21. Jenny GJ, Bauer GF, Vinje HF, et al. The application of salutogenesis to work. In: Mittelmark MB, Sagy S, Eriksson M, et al., editors. *The handbook of salutogenesis*. Cham: Springer International Publishing; 2017. p. 197–210.
22. Nilsson P, Andersson IH, Ejlertsson G, Troein M. Workplace health resources based on sense of coherence theory. *Int J Workplace Health Manag*. 2012;5(3):156–167.
23. Hansen A, Edlund C, Bränholm I. Significant resources needed for return to work after sick leave. *Work*. 2005;25(3):231–240.
24. Opsahl J, Eriksen HR, Tveito TH. Do expectancies of return to work and job satisfaction predict actual return to work in workers with long lasting LBP? *BMC Musculoskelet Disord*. 2016;17:481.
25. Seligman MEP. *Flourish: a visionary new understanding of happiness and well-being*. New York: Free Press; 2011.
26. Smith JA, Flowers P, Larkin M. *Interpretative phenomenological analysis: theory, method and research*. London: Sage Publications; 2009.
27. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care*. 2007;19(6):349–357.
28. Kvale S, Brinkmann S. *Interviews: learning the craft of qualitative research interviewing*. Los Angeles: Sage Publications; 2009.
29. Malterud K, Siersma VD, Guassora AD. Sample size in qualitative interview studies: guided by information power. *Qual Health Res*. 2015;26(13):1753–1760.
30. QSR International. NVIVO 11. 2016. <http://www.qsrinternational.com/product/NVivo11-for-Windows>. Accessed 2016 Feb 17.
31. Miller WL, Crabtree BF. Clinical research: a multimethod typology and qualitative roadmap. In: Crabtree BF, Miller WL, editors. *Doing qualitative research*. Thousand Oaks: Sage Publications; 1999. p. 3–30.
32. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Educ Today*. 2004;24(2):105–112.
33. Shilling V, Starkings R, Jenkins V, et al.. The pervasive nature of uncertainty—a qualitative study of patients with advanced cancer and their informal caregivers. *J Cancer Surviv*. 2017;11(5):590–603.
34. Gragnano A, Negrini A, Miglioretti M, et al. Common psychosocial factors predicting return to work after common mental disorders, cardiovascular diseases, and cancers: a review of reviews supporting a cross-disease approach. *J Occup Rehab*. 2018;28(2):215–231.
35. Magrin ME, Bruno C, Gheno S, et al. The power of stress: a salutogenic model of intervention. In: Delle Fave A, editor. *Dimensions of well-being: research and intervention*. Milano: Franco Angeli; 2006. p. 470–488.

36. Mayan MJ, Morse JM, Eldershaw LP. Developing the concept of self-reformulation. *Int J Qual Stud Health Well-being*. 2006;1(1):20–26.
37. Hefferon K, Grealay M, Mutrie N. Post-traumatic growth and life threatening physical illness: a systematic review of the qualitative literature. *Br J Health Psychol*. 2009;14(2):343–378.
38. Brinkmann S. *Stand firm: resisting the self-improvement craze*. [Place unknown (UK)]: Polity Press; 2017.
39. Held BS. Positive psychology's a priori problem. *Humanist Psychol*. 2018;58(3):313–342.
40. Coyne JC, Tennen H. Positive psychology in cancer care: bad science, exaggerated claims, and unproven medicine. *Ann Behav Med*. 2010;39(1):16–26.
41. Paltrinieri S, Fugazzaro S, Bertozzi L, et al. Return to work in European cancer survivors: a systematic review. *Support Care Cancer*. 2018;26(9):2983–2994.
42. Jakobsen K, Magnus E, Lundgren S, et al. Everyday life in breast cancer survivors experiencing challenges: a qualitative study. *Scand J Occup Ther*. 2018;25(4):298–307.
43. Van der Noordt M, IJzelenberg H, Droomers M, et al. Health effects of employment: a systematic review of prospective studies. *Occup Environ Med*. 2014;71(10):730–736.
44. Waddell G, Burton K, Aylward M. Work and common health problems. *J Insur Med*. 2007;39(2):109–120.
45. Kennedy F, Haslam C, Munir F, et al. Returning to work following cancer: a qualitative exploratory study into the experience of returning to work following cancer. *Eur J Cancer Care*. 2007;16(1):17–25.
46. Vanderpool RC, Nichols H, Hoffler EF, et al. Cancer and employment issues: perspectives from cancer patient navigators. *J Cancer Educ*. 2017;32(3):460–466.
47. Stergiou-Kita M, Pritlove C, Holness DL, et al. Am I ready to return to work? Assisting cancer survivors to determine work readiness. *J Cancer Surviv*. 2016;10(4):699–710.
48. Komatsu H, Yagasaki K. The power of nursing: guiding patients through a journey of uncertainty. *Eur J Oncol Nurs*. 2014;18(4):419–424.
49. Malterud K. Qualitative research: standards, challenges, and guidelines. *Lancet*. 2001;358(9280):483–488.

**Table 1.** Participant overview

<b>Name<sup>a</sup></b>	<b>Gender</b>	<b>Cancer category</b>	<b>Years since last (main) treatment</b>	<b>Cancer status</b>	<b>Working status (%)</b>	<b>Occupation before cancer</b>	<b>Occupation at interview</b>	<b>Interview time (mins)</b>
<b>Anne</b>	F	Breast	5	Cancer free	100	Management and senior advisor	Shop owner	83
<b>Britt<sup>b</sup></b>	F	Giant cell tumour and lung cancer	12	Cancer free	100	Customer advisor, shop	Education: Marketing, Advisor, office	103 + 68
<b>Carl<sup>b</sup></b>	M	Kidney and non-Hodgkin's lymphoma	5	Cancer free	100	General manager	General manager	100 + 62
<b>Daniel</b>	M	Brain	4	Cancer free	40	Consultant and general manager in his own company	Consultant and general manager in his own company	92
<b>Eva</b>	F	Breast	14	Cancer free	100	Teacher and project manager	General manager, private company	87
<b>Finn</b>	M	Testicle and lymph	14	Cancer free	50	Craftsman	Janitor	105
<b>Grete<sup>b</sup></b>	F	Breast	7	Cancer free	100	Office worker/receptionist	Manager, office	90 + 60
<b>Henrik</b>	M	Leukaemia (chronic myelogenous)	8	Well on medication	110	Artist and teacher	Artist and teacher	103

<sup>a</sup> Participants were given fictitious names; the first letter of the name represents the order of the interviews.

<sup>b</sup> Participants who were re-interviewed.

The participants' ages at the time of the interviews were: 42, 45, 48, 48, 50, 52, 53, 59 (to protect participants' identity, the ages are not mentioned in the same sequence as the interviews).

**Table 2. Overview of topics included in the interview schedule**

Topic no.	Headline of topic	Open questions on the topics. Detailed suggestions for questions are not listed here.
1	First question:	<i>Would you please give me an overview of how your work situation developed and what has happened during the time from the cancer diagnosis until now?</i>
2	Overview, creating the timeline	<ul style="list-style-type: none"> <li>• Working situation at the time of diagnosis</li> <li>• Family situation</li> <li>• Treatment, duration and possible influence from late effects</li> <li>• Development of working situation, possible changes made</li> </ul>
3	Treatment and return to work period	<ul style="list-style-type: none"> <li>• Working situation</li> <li>• Co-operation with employer. Contact with workplace, colleagues. Adjustments needed and/or provided</li> <li>• Influences of health and the working situation</li> <li>• Possible developments/changes in life quality and well-being</li> <li>• Turning points</li> <li>• What kind of support was important and available (Sickness absence benefits, occupational therapists, social &amp; health services, family, other)</li> <li>• Personal characteristics and self-perceived resources</li> <li>• Protective factors</li> <li>• Environmental surroundings, descriptions</li> </ul>
4	The present time	<p>How are you now?</p> <ul style="list-style-type: none"> <li>• Working situation</li> <li>• Perceived health</li> <li>• Changes from before</li> <li>• Thoughts about future working situation</li> <li>• Advice for others who are experiencing the same</li> </ul>