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Resilience in health care workers: Responses to the question 'what went well today?' A thematic analysis

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3 **Resilience in health care workers: Responses to the question ‘what went well today?’**
4 **A thematic analysis**
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ABSTRACT

Objectives: The purpose of this study was to explore which factors are meaningful for neonatal intensive care unit (NICU) health personnel in view of workplace resilience.

Design: Qualitative study

Methods: Survey of health care professionals from a NICU of an academic medical center. Data were collected with the online survey tool “Qualtrics”. Participants received a daily e-mail reminder for 14 days and were prompted to answer the question ‘What are the three things that went well today, and what was your role in bringing them about’. Responses were analyzed using thematic analysis in a deductive approach, where the analysis and interpretation of the data was based on the on the theoretical understanding of resilience.

Results: The ‘Three Good Things’ responses of 32 participants such as RNs, physicians and neonatal NPs (91% female) included more than 1,300 statements and identified three main themes; 1) Having a good day at work; 2) Having supportive relationships and; 3) Making meaningful use of self-determined time.

Conclusions: The findings showed the relevance of supportive relationships professionally and personally, bolstered through good communication and common activities that foster positive emotions. The ‘Three Good Things’ exercise fosters wellbeing and supports the importance of self-care for health care workers.

Strengths and limitations of this study

- The ‘Three Good Things’ exercise fosters wellbeing and supports the importance of self-care for health care workers.
- The relatively simple tool ‘Three Good Things’ helps to focus on positive emotions which in turn support resilience building.
- Participants workday experiences and tasks they took on to positively influence difficult circumstances at work links with recommendations from the American Psychology Association
- Health professional leaders have an opportunity to consider insights on what fosters health care workers positive emotions in a variety of leadership instruments such as regular employee evaluation and career development meetings when coaching for personal growth.

INTRODUCTION

Resilience has been described as an ability to rebound from adversity and overcome difficult circumstances in one's life. As such it is a process of adapting to adversity that can be developed and learned^{1,2}. Research showed that resilience is a complex combination of one's traits, temperament, and learned coping skills. Factors such as positive coping mechanisms, social support, and personal spirituality are essential in surviving traumatic experiences¹. The American Psychological Association (APA) highlights that having caring and supportive relationships within and outside the family strongly contributes to resilience³.

Resilience in healthcare workers

Healthcare workers often face stressful situations including time constraints to provide care, high workload, having multiple roles, and dealing with emotionally challenging moments. This can impact their mental well-being that might result in burnout, which ultimately impacts the ability of healthcare workers to provide the best possible care. Intensive Care Unit (ICU) personnel have an increased prevalence to job related burnout and posttraumatic stress disorder when compared to general medical/surgical nurses^{4,6}. In order to provide health care workers with better skills to deal with stressful events, improving resilience, as a distinct force to prevent burnout, might be very helpful. It is still unclear; however, which factors are best support health care workers to build resilience. Mealer and colleagues interviewed nurses who experienced posttraumatic stress, highlighting that highly resilient nurses identified spirituality, a supportive social network, optimism, and having a role model as characteristics that helped them cope with stress in their work environment⁵. Jackson and colleagues reported that: a) building positive professional relationships through networks and mentoring; b) maintaining positivity through laughter, optimism, and positive emotions, c) developing the emotional insight to understand one's own risk and protective factors, d) achieving life balance and using spirituality to give one's life meaning and coherence, and e) becoming more reflective, helps access emotional strength and assists nurses in developing resilience. Similar work showed that being female and maintaining a work-life balance have been found to consistently relate to improved resilience across healthcare providers⁷. Ultimately, resilience is a construct including topics like Mindfulness, Purpose, Relationship, Self-care and being Self-aware. Techniques for being more

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3 optimistic and become more adaptive and resilient, can be applied from the current positive
4 psychology movement ¹.

7 **Positive Psychology**

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9 The field of positive psychology focuses on minimizing suffering and increasing happiness, because
10 happiness brings many more benefits than just feeling good ⁸. Happy people are healthier, more
11 successful, and more socially engaged ⁹. Happiness involves three attributes a) positive emotions and
12 pleasure b) an engaged life) and c) a meaningful life. Research findings showed, the most satisfied
13 people were those who orient their pursuits toward all three, with the greatest weight carried by
14 engagement and meaning ⁸. Longitudinal intervention studies show that positive emotions play a role
15 in the development of psychological resilience a skill useful in coping well in the long-term ¹⁰. If an
16 individual can cultivate these positive emotions, he or she can use them to help cope with negative
17 emotions. Yet, positive emotions are useful in helping people who are distressed in dealing with
18 challenging situations and help them overcome negative emotions ¹¹. In this aspect interventions that
19 are based on positive psychology significantly enhance well-being and decrease depressive
20 symptomatology.

33 **Three Good Things**

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35 Techniques to focus on positive emotions were applied in an internet-based intervention called ‘Three
36 Good Things’ where every night participants were asked to write down three good experiences.
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38 Participants continued this for at least one week and also had to emphasize why these were good
39 events. Happiness and depression were evaluated prior to study begin and at one-month follow-up.
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41 Results highlight that participants following this exercise were happier and less depressed at one-
42 month follow-up, as well as at six-month follow-up, than at baseline ¹². Thus, as a practical method for
43 enhancing healthcare worker’s resilience, the ‘Three Good Things’-exercise was tested in a sample of
44 neonatal intensive care unit (NICU) personnel in the USA. The focus of the present qualitative
45 analysis is on the content of the written statements that were provided by the study participants during
46 the ‘Three Good Things’ intervention. The purpose of this study was to explore which factors are
47 meaningful for neonatal intensive care unit (NICU) health personnel in view of workplace resilience.
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58 **METHODS**

Design and setting

A qualitative study using thematic analysis (TA) was applied to analyze the ‘Three Good Things’ responses. TA allows a systematic approach to identify patterns across a data set, enabling a rich and detailed analysis of participants’ perspectives¹³. Data were collected at a NICU of a large academic medical center in the Southwestern region of the United States that cares for more than 2,000 infants each year. The NICU used in this study is a critical care facility Level 3 (76 beds) and is led by a multidisciplinary team of neonatal experts, in addition to specialized physicians, neonatal nurses, and allied healthcare professionals.

Recruitment and Sample

Study participants were recruited at the NICU during grand rounds. The sample included physicians, Neonatal Nurse Practitioners, RNs, charge nurses, and allied healthcare professions of which 91% of the participants were female. The study was approved by the [...] Institutional Review Board. Each participant did an electronic informed consent form; (Study Protocol ID: Pro00038083).

Data collection

The data were collected in October 2012 using the online survey tool ‘Qualtrics’. Once registered for participation, a daily e-mail reminder was sent for 14 days at 7pm (EST). The reminder included a link to text boxes that prompted participants to answer ‘What are the three things that went well today, and what was your role in bringing them about’. Pre and-post intervention participants were asked to answer questions to measure happiness. All written responses were stored in 14 Excel tables, of which one table included all responses per day.

Data Analysis

This analysis included a sample of 32 participants who provided an answer to at least 13 of the 14 days and included more than 1,300 statements. Responses were analyzed using TA in a deductive approach, where the analysis and interpretation of the data was based on the on the theoretical understanding of resilience. The analysis incorporated an iterative process of six phases, with movement back and forth throughout the phases and a latent comparison with the original data¹³. This included 1) familiarization with the data, through reading and rereading the answers several times; 2) completing coding through all answers; 3) identifying potential themes and subthemes and making

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3 comparisons between the data; 4) creating a thematic map and identifying themes that were compared
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5 with theoretical assumptions of resilience; 5) ongoing analysis to refine the specifics of each theme
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7 and to find the overall story of the analysis; 6) the final phase included the generation of the report.
8

9 RESULTS

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11 The analysis process of the 'Three Good Things' responses of the 32 participants, led to the
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13 identification of three main themes; 1) Having a good day at work; 2) Having supportive relationships
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15 and; 3) Making meaningful use of self-determined time (Figure 1). All quotations are intended to be
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17 representative of the larger group in this study and the phenomenon being explored.
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19 Having a good day at work

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22 Participants regularly commented about a 'Good day at work' or that their 'Day went smoothly'. One
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24 participant wrote: *-Overall good day at work, no major problems with my patients (032)*. Here a good
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26 day at work included the wellbeing of the caregiver's patients. This was also illustrated in the
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28 following statement: *-my patient who had been wearing a brace to his foot for 3 hours on and 3 hours
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30 off does not need it anymore. It effectively corrected his foot position! Everyone who put the brace on
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32 made a difference! (023)*. Additionally, participants responses also referred to the wellbeing of their
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34 patients parents, which is highlighted by the following statements: *-I helped a new mom hold and
35
36 spend time with her twins for the first time (030), or: -I made a parent laugh (028)*.
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40 Another positive impact for study participants was the possibility of learning new things, illustrated by
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42 statements like: *-Today I had two sick kids and was a bit stressed on how the day would go. I actually
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44 ended up learning a lot of new things like trouble-shooting art lines and the vent by asking questions.
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46 In the end, I'm grateful for the experience (025)*. Others pointed out that learning and progressing in
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48 areas that matter to them was very important. One participant wrote: *I learned all about trachea care
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50 today. I am so thankful for my preceptor! (002)*. What was frequently brought to the foreground was
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52 that collaboration at work mattered. Being able to work together was further enhanced through
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54 constructive communication, which was characterized through goal-orientation and professional
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56 discussion with colleagues. This was demonstrated by responses like: *-Had a good and professional
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3 *discussion with colleagues (020), or -Great day at work, there were a couple of meetings that*
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5 *accomplished some previously set goals (029).*
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8 Supportive work environment, good staffing, the ability to take breaks, and manageable workloads
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10 made for a good day at work *-Unit ran smoothly, 5 in, 5 out (016)* was an often used quotation. Other
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12 participants commented about a peaceful, well managed, or quiet day at work: *- Had a great, non-*
13
14 *stressful assignment today and my shift went well (025), or - Good calm day at work! (003).* The
15
16 ability to leave work on time was often important for participants: *- got out of work on time; efficient*
17
18 *work/ time management (032).* Other participants stated the activity they could do with loved ones,
19
20 because they were able to leave on time: *- I was able to get out of work on time so that I could spend*
21
22 *time with my husband (018).* Ultimately, when participants could get out of work on time, they had an
23
24 opportunity to engage in meaningful activities with loved ones.
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27 Many participants mentioned that good teamwork and supportive co-workers were important: *-Great*
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29 *teamwork on the floor today (005).* Co-workers often didn't know each other during individual shifts,
30
31 but were still able to establish good collaboration. This was illustrated by statements like: *-I had a*
32
33 *good day at work even though I was covering a team I didn't know (024).* Another participant
34
35 appreciated the support of the co-workers, which helped them to alleviate personal insecurities: *-Today*
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37 *I had the opportunity to work with an old co-worker and a new co-worker and we worked together*
38
39 *very well. The day went smoothly and pleasantly because of my awesome podmates. They helped me*
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41 *with all my concerns and doubts and alleviated my fears (025).* Regularly participant mentioned that it
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43 was good when they could help or support a coworker: *-I assisted a co-worker through a very hectic*
44
45 *day, so we both left on time! (028).* Ultimately, having fun and laughing together, was an important
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47 aspect of good teamwork. One participant wrote: *- I had a few laughs with my podmate today that*
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49 *really lightened the mood on such a crazy day (030).* Another stated: *- Laughed with my co-worker*
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51 *after having a long day at work (007).*
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53 54 **Having supportive relationships** 55 56 57 58 59 60

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3 *Cooked dinner and had the entire family home for a sit-down meal! Good times of laughing and*
4 *sharing! (028)*, this quotation captures important aspects for participants: eating a meal together,
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6 spending time together, talking and laughing together and caring for the wellbeing of family members.
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8 A majority of the participants stated regularly that eating a meal together with family members,
9
10 relatives, or friends was good. One participant noted: *-Had breakfast with my mom and dinner with my*
11 *mom-in-law. Love family time on my day off! (025)*. Another participant wrote: *-Reluctantly went to*
12 *dinner with college friends and ended up having a great time (014)*. Relationships in various forms
13
14 were seen as important and included family members, friends, coworkers, and pets. One participant
15
16 wrote: *-Enjoyed family and neighbors at a block party (020)*. Another participant wrote: *-Enjoyed*
17 *watching my dogs and cat play together / I just had to stop and watch them (024)*. Some participants
18
19 wrote about their love for family members or friends: *- Felt loved because family and friends called to*
20 *check on how I was feeling (006)*. A further statement was: *- Enjoyed an evening outside with my*
21 *family! Later was told by my teenage daughter how happy she is I'm her mom and that we have a close*
22 *relationship! Heaven to a mom's ears (028)*.

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32 As highlighted in previous themes, communication was an important aspect in fostering supportive
33
34 relationships. This was illustrated by statements like: *- I had a productive family discussion with my*
35 *children during dinner together (002) or -Felt appreciated by my spouse because we had time to eat*
36 *dinner together and talk (006)*. Other statements included the aspect of talking and laughing together: *-*
37 *Had the opportunity to catch up with my husband. Good talk. Good laughs (028)*. Similarly,
38
39 participants stated the importance of their family members' wellbeing: *- My daughter is healthy (007)*.
40
41 Participants organized doctors appointments for routine clinic visits or vaccinations: *-My family and I*
42 *got flu vaccine today, I convinced them (008)*, or *-My kids met their new Dr, got their vaccines, and*
43 *weren't scared (016)*. The health status of a family member was also often mentioned, as demonstrated
44
45 by these statements: *-Health of my mother improved a little (026)*, or *-Good preliminary result from*
46 *my husband's upper endoscopy (032)*. Frequently, participants noted that a family member has
47
48 returned safely from a trip: *- I got all my kids home safe from their activities (002)*, or *-My honey*
49 *made it to NY safely (004)*.

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3 The ability of a participant to help someone was positively mentioned. One participant wrote: *-My*
4 *mom feels better with what I have researched what to eat for her renal failure (012)*. Other
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6 participants supported their children for school tasks: *-Found lots of books at the library that will help*
7 *my son on his history project (032)*, or *-Daughter made an A on spelling pretest. I helped her study the*
8 *previous night (003)*. Alternatively, many participants were pleased when they were offered help for
9 chores around the house: *- On the way home stopped at the grocery store and bought items for a*
10 *spaghetti supper. I was joined in the kitchen by my hubby who helped with the pasta and my son who*
11 *washed dishes...then a family meal together. Doesn't take much to make me happy ♥ (029)*.
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13 Frequently, when all errands were done the time was used to relax and was referred to as 'me time'.
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22 **Making meaningful use of self-determined time**

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24 Many participants reported that they loved shopping, working in the garden, being physically active,
25 or reading a book. Participants wrote statements like: *-Enjoyed the fabulous weather by working in*
26 *the yard with my husband. The flowers look fabulous (028)*, or *-completed my workout within the*
27 *required time limit today (030)*, another person noted: *-got to sit by the pool and read my book (022)*.
28
29 Individuals with dogs frequently went for walks: *-I was off and I went for our daily early morning*
30 *walk with my husband and our dogs... The temperature is ideal and the sunrise is beautiful. We walk*
31 *around the golf course in my residence. Felt very good after our walk (019)*. Another person wrote: *-*
32 *Snuggled with my dog / I took advantage of a quiet evening and just relaxed (024)*. Some participants
33 mentioned that being active was important: *- awesome sunrise this morning during our walk/ de-stress*
34 *by walking (019)*. Further statements expressed the importance of sufficient relaxing sleep: *- I was*
35 *able to sleep in, all alone in a quiet house! Completely rested and rejuvenated! (028)* For several
36 participants the ability to what they called 'me time' or 'alone time' was important. Statements like: *-I*
37 *took time for myself, enjoying a book and short nap (028)*, or: *- Went shopping by myself to prepare*
38 *for events tomorrow. Love having some alone time (017)*, were frequent made.
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53 **DISCUSSION**

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3 The analysis of the 'Three Good Things' responses generated three key areas that were important for
4 the NICU health care workers; 1) Having a good day at work, 2) Having supportive relationships and
5 3) Making meaningful use of self-determined time. These findings demonstrate that achieving work
6 satisfaction and life balance was most meaningful for NICU professionals and provides an important
7 pillar in building resilience and preventing burnout. Participants references about their workday and
8 tasks they took on to positively influence difficult circumstances at work closely links with
9 recommendations from the American Psychology Association. The Association encourages
10 individuals to take on an active role in order to achieve work satisfaction and solve work related
11 problems³. Additionally, the importance of 'having supportive relationships' for psychological well-
12 being has been well reported in the literature^{15 14}. This was captured when participants reported
13 positive aspects about their lives when they spent time with family members, friends, colleagues or
14 pets. Being active together was a positive experience, because it demonstrated connectedness and
15 produced emotional wellbeing, like joy (laugh together, enjoy activities together), pride (pride of an
16 achievement of someone or her own), love and gratefulness¹¹. According to Fredrickson the effect of
17 positive emotions isn't created through one great feeling but through frequent mild doses of positive
18 emotions, and an importance aspect for health care workers to build resilience^{5 7 15}.

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36 The American Psychology Association encourages individuals to make connections; which is
37 described as having 'good relationships with close family members, friends or others. Accepting help
38 and support from those who are close and dear to someone is an opportunity to establish such
39 connections. Assisting others when they require help is also beneficial to the helper'³. These were all
40 dominant aspects captured in the 'Three Good Things' responses. For example, 'having supportive
41 relationships' captured the aspects of getting help and giving help. Caring for the wellbeing of others,
42 was essential in participants personal life as well as their work environment and included the
43 importance of good communication. Comparable findings were identified in the study by Jackson and
44 colleagues who reported that building positive professional relationships through networks and
45 mentoring were important aspects for building resilience¹⁵.

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The identified theme of 'making meaningful use of self-determined time' aligns with important

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3 aspects about how to ‘Take care of yourself’ and the need to pay attention to someone’s own needs
4 and feelings. Here the American Psychological Association encourages individuals to ‘engage in
5 activities that they enjoy and find relaxing. And the recommendations also highlight the importance of
6 regular exercise³. These are all vital aspects to an individual’s road to resilience. This is supported by
7 studies where achieving life balance is consistently seen as an important aspect in building resilience in
8 healthcare professionals^{7 15}.

16 **Implications for health professional leaders**

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18 The study highlights important aspects for health professional leaders, but what stands out are
19 activities that focus on self-care provide a particular challenge for healthcare workers. Although self-
20 care was often mentioned in statements by participants and captured in the theme about ‘making
21 meaningful use of self-determined time’, these activities often came last. What is brought to the
22 foreground here is a risk that healthcare professionals put everyone’s interest and needs ahead of their
23 own and lack the importance of self-care. By doing so healthcare workers are falling short of looking
24 after their own wellbeing and run the risk of not being able to rebound from adversity and overcome
25 difficult circumstances in one’s life. In the end, if healthcare workers are not given the opportunity to
26 strengthen positive emotions, and also attending to their own needs, we might miss an important
27 opportunity to build resilience in a group of individuals at risk for burnout. Thus, health professional
28 leaders have an opportunity here to consider insights on what fosters healthcare workers’ positive
29 emotions in a variety of leadership instruments such as regular employee evaluation and career
30 development meetings when coaching for personal growth. Each of these instruments can address
31 specific topics as expressed in the 3 good things exercise e.g. what contributes to a good day at work,
32 what is my role as a professional in it, or how to create a work life balance. It often might be
33 appropriate that health professional leaders suggest the ‘Three Good Things exercise as an
34 intervention to their team. Alternatively, supervisors might instill questions on positive experiences
35 during team meetings, to foster positive emotions and resilience in often challenging work and life
36 situations.

57 **Limitations**

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3 One of the limitations of the study is the relatively high dropout rate of participants during the two-
4 week period. Only one third of the participants provided answers to all fourteen days of the exercise.
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6 Yet, it seemed difficult to engage healthcare workers for the entire study-duration, which shift work
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8 may have played an important role.
9

10 11 **Conclusion**

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13 The study highlights the importance of supportive relationships, good communication, and common
14 activities that foster positive emotions. Making meaningful use of personal time was a prevalent
15 theme, although there seems to be a limited availability for healthcare workers to focus on healthy
16 work life balance. This was a pilot study, with health care workers at a NICU as participants. Further
17 approaches in health care with this exercise should be done to verify the findings. According to current
18 science, positive emotions and self-care are important topics to build resilience. Resilience can be
19 learned and the ‘Three Good Things’ exercise helps to focus on positive emotions. Interventions to
20 increase the awareness of the healthcare workers to the importance of self-care for building resilience
21 are needed.
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3 **Contributors** KRL, OM and RS contributed to study conception, data analysis and interpretation. JBS
4 contributed to study site management, data collection, analysis and interpretation. KRL was
5 responsible for manuscript drafting and editing. All authors contributed to manuscript drafting
6 appraisal, revision and editing and read and approved the final manuscript.
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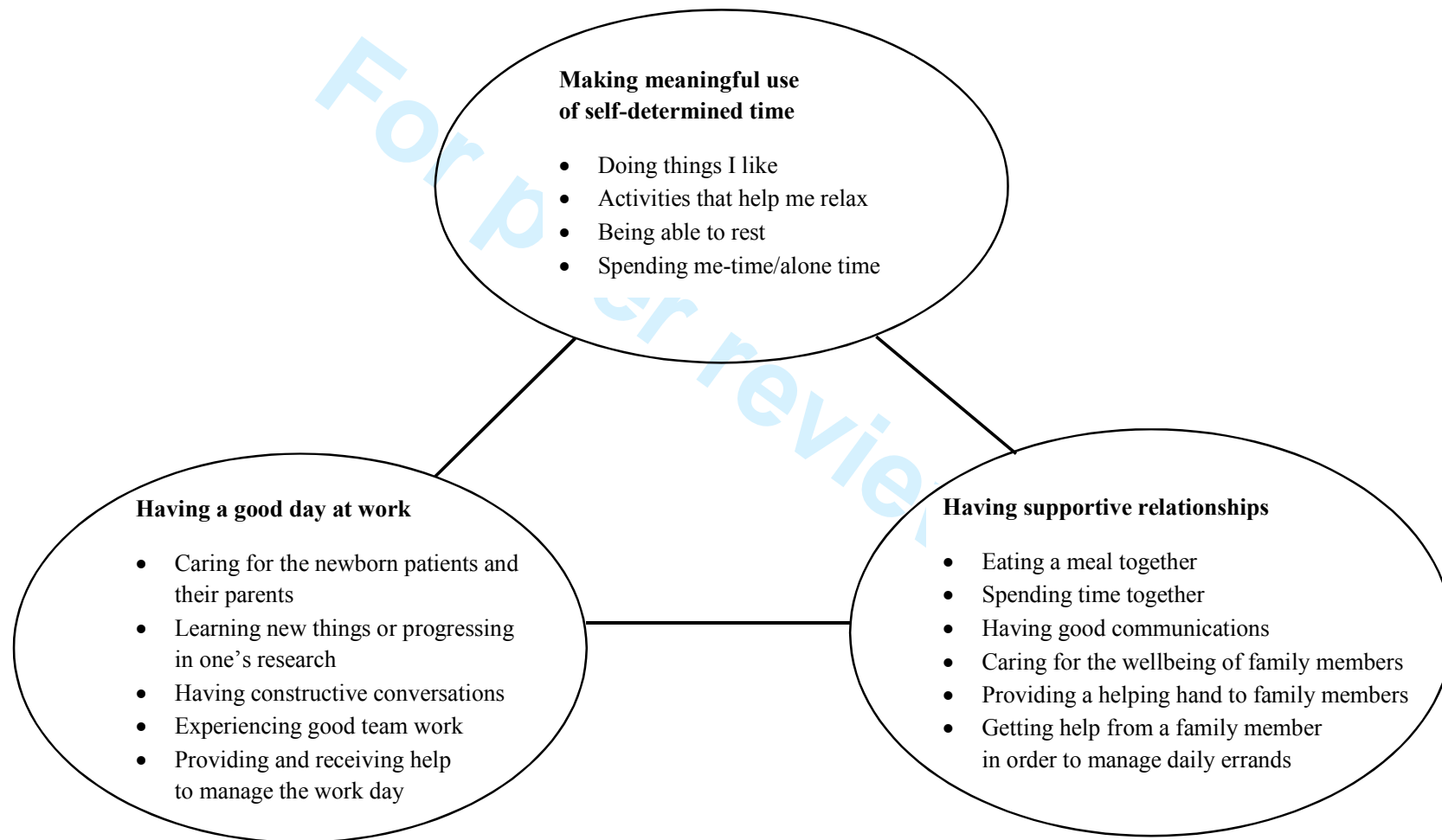
10
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12 not-for-profit sectors research
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17 **Competing interest** None declared
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5 **Figure 1.** Schematic representation of the thematic findings of the Three Good Things exercise
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Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

No	Item	Guide questions/description
Domain 1:		
Research team and reflexivity		
Personal Characteristics		
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group? <i>No interviews were conducted but email questions prompted responses.</i>
2.	Credentials	What were the researcher's credentials? <i>Researcher's credentials included PhD.</i>
3.	Occupation	What was their occupation at the time of the study? <i>Psychologist, Nurse academics, Nurse specialist, Chief Patient Safety Officer.</i>
4.	Gender	Was the researcher male or female? <i>1 female, 3 males.</i>
5.	Experience and training	What experience or training did the researcher have? <i>Extensive clinical experience and scientific training including qualitative and quantitative methods.</i>
Relationship with participants		
6.	Relationship established	Was a relationship established prior to study commencement? <i>Only contact via invitation to participate in study.</i>
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? <i>Reasons for doing the study</i>
8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? <i>Only information, that participation is voluntary and the responses will be analyzed.</i>
Domain 2: study design		
Theoretical framework		
9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? <i>Thematic analysis</i>
Participant selection		
10.	Sampling	How were participants selected? <i>Convenience</i>

No	Item	Guide questions/description
11.	Method of approach	How were participants approached? <i>First: personal during clinical grand rounds, second: via email</i>
12.	Sample size	How many participants were in the study? 32
13.	Non-participation	How many people refused to participate or dropped out? Reasons? <i>Unknown, reasons for drop out included incomplete set of responses</i>
Setting		
14.	Setting of data collection	Where was the data collected? <i>Since via email no defined place of data collection</i>
15.	Presence of non-participants	Was anyone else present besides the participants and researchers? <i>Researcher was not present during the data collection, unknown for non-participants</i>
16.	Description of sample	What are the important characteristics of the sample? <i>Data available about gender and occupation e.g. type of health profession</i>
Data collection		
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested? <i>Interview question is based on earlier work by Seligman et al. E-mail based question prompting responses</i>
18.	Repeat interviews	Were repeat interviews carried out? If yes, how many? <i>The same question every day for 14 days</i>
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data? <i>No</i>
20.	Field notes	Were field notes made during and/or after the interview or focus group? <i>No</i>
21.	Duration	What was the duration of the interviews or focus group? <i>It usually took 3-5 minutes for responding to the question (per day)</i>
22.	Data saturation	Was data saturation discussed? <i>No</i>
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction? <i>No</i>

Domain 3: analysis and findings

Data analysis

24.	Number of data coders	How many data coders coded the data?
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No	Item	Guide questions/description
25.	Description of the coding tree	<i>One, with ongoing discussion with senior reseracher</i>
26.	Derivation of themes	<p data-bbox="804 315 1321 387">Did authors provide a description of the coding tree?</p> <p data-bbox="804 387 1337 459"><i>Yes, following the thematic analysis iterative process of six phases</i></p> <p data-bbox="804 459 1398 530">Were themes identified in advance or derived from the data?</p> <p data-bbox="804 530 1382 667"><i>Themes were deductively identified i.e. analysis and interpretation of the data was based on the theoretical understanding of the phenomenon of interest(resilience)</i></p>
27.	Software	<p data-bbox="804 678 1337 750">What software, if applicable, was used to manage the data?</p> <p data-bbox="804 750 1398 815"><i>No specific analysis software was used, but Excel tables for data display (response statements</i></p>
28.	Participant checking	<p data-bbox="804 824 1337 896">Did participants provide feedback on the findings?</p> <p data-bbox="804 896 845 931"><i>No</i></p>
Reporting		
29.	Quotations presented	<p data-bbox="804 987 1347 1097">Were participant quotations presented to illustrate the themes / findings? Was each quotation identified?</p> <p data-bbox="804 1097 1270 1171"><i>Yes, individual participant numbers (anonymized) are presented</i></p>
30.	Data and findings consistent	<p data-bbox="804 1180 1321 1252">Was there consistency between the data presented and the findings?</p> <p data-bbox="804 1252 845 1288"><i>Yes</i></p>
31.	Clarity of major themes	<p data-bbox="804 1294 1369 1366">Were major themes clearly presented in the findings?</p> <p data-bbox="804 1366 1078 1402"><i>Yes, three main themes</i></p>
32.	Clarity of minor themes	<p data-bbox="804 1413 1324 1485">Is there a description of diverse cases or discussion of minor themes?</p> <p data-bbox="804 1485 1375 1520"><i>Yes, with examples reflecting literature findings</i></p>

BMJ Open

Three Good Themes: a qualitative analysis of the Three Good Things intervention in health care workers

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3 **Three Good Themes: a qualitative analysis of the Three Good Things intervention in health care**
4 **workers**

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39 **Key words:** Positive psychology, Well-being, Healthcare professionals, Self-care, Qualitative
40 research
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42
43
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ABSTRACT

Background: Intensive Care Unit personnel have an elevated prevalence of job related burnout and posttraumatic stress disorder, which can ultimately impact patient care. To strengthen healthcare workers' skills to deal with stressful events, it is important to focus not only on minimizing suffering but also on increasing happiness, as this entails many more benefits than simply feeling good. Thus, the purpose of this study was to explore the content of the good things reported by healthcare workers participating in the three good things intervention.

Methods: In a tertiary care medical center, neonatal intensive care unit (NICU) healthcare professionals (n=32; 91% female) participating in a 14-day online "Three Good Things" intervention and survey were sent daily email reminders to reflect on and respond to the questions: "What are the three things that went well today?" and "What was your role in bringing them about?" To analyze their responses, we applied a thematic analysis (TA), which was guided by our theoretical understanding of resilience.

Results: Involving more than 1,300 statements, the "Three Good Things" responses of the 32 study participants, including registered nurses, physicians, and neonatal nurse practitioners, led to the identification of three main themes: 1) Having a good day at work; 2) Having supportive relationships; and 3) Making meaningful use of self-determined time.

Conclusions: The findings show the personal and professional relevance of supportive relationships strengthened by clear communication and common activities that foster positive emotions. As the "Three Good Things" exercise acknowledging the importance of self-care in healthcare workers and appears to promote wellbeing, it might ultimately strengthen resilience

Strengths and limitations of this study

- The Three Good Things intervention has been replicated, but never before has it been used in healthcare to examine the themes that are generated about what is going well.
- These themes offer opportunities for the large and growing number of healthcare leaders looking to enhance the resilience of their workforce.
- A relatively high participant dropout rate limits the generalizability of the study findings.
- The results from this singly work setting may not generalize to other work settings in healthcare.

INTRODUCTION

Healthcare workers often face stressful situations including time constraints, high workload, multiple roles, and emotionally challenging moments. The strain sustained by healthcare workers can negatively impact their resilience, resulting in burnout and compromising their ability to provide the best possible care¹. In comparison to general medical/surgical nurses, Intensive Care Unit (ICU) personnel have an increased prevalence of job related burnout and posttraumatic stress disorder^{2,4}. There is a need to enhance their resilience, i.e., their ability to adapt, rebound and overcome adversity. Resilience can be developed and improved, and functions as a distinct defense against burnout^{5,6}. Despite the benefits of strengthening resilience, relatively little qualitative research has been done to explore the best way to support the resilience of healthcare workers.

The American Psychological Association (APA) highlights that caring and supportive relationships within and outside the family strongly contribute to resilience⁷. Interviewing nurses who had experienced posttraumatic stress, Mealer et al. observed that highly resilient nurses identified spirituality, a supportive social network, optimism, and role models as factors that helped them cope with stress in their work environment³. In a review of the literature, Jackson et al. reported on five factors that assist nurses in developing resilience: a) building positive professional relationships through networks and mentoring; b) maintaining positivity through laughter, optimism, and positive emotions, c) developing the emotional insight to understand one's own risk and protective factors, d) achieving life balance and using spirituality to give one's life meaning and coherence, as well as e) becoming more reflective.⁸ Additionally, being female and maintaining a work-life balance have consistently been associated with higher resilience across healthcare providers⁹. The construct of resilience often includes topics such as Mindfulness, Purpose, Relationships, Self-care and Self-awareness⁵. The positive psychology movement has a number of mature interventions to facilitate and improve resilience in the general population, and could be applied more readily to healthcare workers⁵.

Positive Psychology Interventions

Conceived by Seligman and Csikszentmihalyi¹⁰ the field of positive psychology focuses on valued subjective experience relating to the past (well-being, contentment and satisfaction), present (flow, a

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3 state of immersive, active engagement in one's activities, which functions as a factor of happiness),
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5 and future (hope and optimism). Positive psychology focuses on minimizing suffering and increasing
6
7 happiness, because happiness brings many more benefits than simply feeling good ¹⁰. Happy people
8
9 are healthier, more successful, and more socially engaged ¹¹. Happiness involves three attributes: a)
10
11 positive emotions and pleasure, b) an engaged life, and c) a meaningful life. Research has shown that
12
13 the most satisfied people are those who orient their pursuits toward all three, with the greatest weight
14
15 carried by engagement and meaning ¹². Longitudinal intervention studies show that positive emotions
16
17 play a role in the development of psychological resilience—a skill useful in effective long-term coping
18
19 ¹³. If an individual can cultivate these positive factors, he or she can use them to cope with negative
20
21 emotions. Yet, positive emotions are useful in helping distressed people deal with challenging
22
23 situations and overcome negative emotions ¹⁴.

24
25 The current study focused on positive emotions in an internet-based intervention called 'Three Good
26
27 Things': for fourteen consecutive nights, participants were asked to write down three good experiences
28
29 from that day, emphasizing why these were good events. Data was included for participants who
30
31 continued this exercise for 13 of the 14 days. Happiness and depression were evaluated prior to the
32
33 study's commencement, and then followed up after one and six months. Results highlight that
34
35 participants who performed this exercise were happier and less depressed at the one-month follow-up,
36
37 as well as at the six-month follow-up, than at baseline ¹⁵.

38
39 Overall, as shown in two meta-analyses^{16 17}, positive psychology interventions, including self-help,
40
41 group and individual therapy (e.g., Three Good Things, hope therapy, well-being therapy) have been
42
43 effective on individuals' enhanced well-being as well as in reducing depressive symptoms. Although
44
45 various positive psychology interventions—including online-based self-help techniques such as Three
46
47 Good Things—focusing on symptom relief, well-being and happiness, have been applied in healthy and
48
49 mentally distressed individuals, little specific information is available regarding the kinds of positive
50
51 experiences that influence health professionals' subjective well-being. Therefore, the purpose of this
52
53 study was to explore the content of the good things reported by healthcare workers participating in the
54
55 three good things intervention.
56

57 58 **METHODS**

Design and setting

A qualitative study using thematic analysis (TA) was applied to analyze written statements provided by study participants during the 'Three Good Things' intervention. TA uses a systematic approach to identify patterns across a data set, enabling a rich and detailed analysis of participants' perspectives¹⁸. Data were collected at an academic medical center Level 3 NICU in the USA, led by a multidisciplinary team of neonatal experts in collaboration with specialized physicians, neonatal nurses, and allied healthcare professionals.

Recruitment and Sample

Study participants were recruited at the NICU during grand rounds (=approximately 150 eligible health professionals. A total of 89 health professionals (91% female) registered to participate. The sample included physicians, Neonatal Nurse Practitioners, RNs, charge nurses, and allied healthcare professions. The study was approved by the Duke Institutional Review Board. Each participant completed an electronic informed consent form (Study Protocol ID: Pro00038083).

Data collection

The data were collected in October 2012 using the 'Qualtrics' online survey tool. Once participants had registered, a daily e-mail reminder was sent to them at 7pm (EST) on each of the next 14 days. The reminder included a link to text boxes that prompted participants to answer 'What are the three things that went well today, and what was your role in bringing them about'. All written responses were stored in 14 Excel tables, i.e., one table for all of each day's responses.

Data Analysis

This study analyzed the data of a sample of 32 participants who provided answers for at least 13 of the 14 days—more than 1,300 statements. Responses were analyzed using TA via a deductive approach, with data analysis and interpretation based on our theoretical understanding of resilience. The analysis incorporated a six-phase iterative process, with movement back and forth throughout the phases and a latent comparison with the original data¹⁸: 1) familiarization with the data by reading and rereading the answers several times; 2) coding all answers; 3) identifying potential themes and subthemes and making comparisons between various participants data; 4) creating a thematic map and identifying

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3 themes for comparison with theoretical assumptions of resilience; 5) ongoing analysis to refine the
4 specifics of each theme and to find the overall story narrative of the analysis; and 6) the generation of
5 a report.
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7

8 9 **RESULTS**

10 The analysis process of the 'Three Good Things' responses of the 32 participants, led to the
11 identification of three main themes; 1) Having a good day at work; 2) Having supportive relationships
12 and; 3) Making meaningful use of self-determined time (Figure 1). All quotations are intended to be
13 representative of the larger group in this study and the phenomenon being explored.
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18 19 **Having a good day at work**

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22 Participants regularly commented about a 'Good day at work' or that their 'Day went smoothly'. One
23 participant wrote: *-Overall good day at work, no major problems with my patients (032)*. Here a good
24 day at work included the wellbeing of the caregiver's patients. This was also illustrated in the
25 following statement: *-my patient who had been wearing a brace to his foot for 3 hours on and 3 hours
26 off does not need it anymore. It effectively corrected his foot position! Everyone who put the brace on
27 made a difference! (023)*. Additionally, participants' responses also referred to the wellbeing of their
28 patients parents, which is highlighted by the following statements: *-I helped a new mom hold and
29 spend time with her twins for the first time (030), or: -I made a parent laugh (028)*.
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40 Another positive impact for study participants was the possibility of learning new things, illustrated by
41 statements like: *-Today I had two sick kids and was a bit stressed on how the day would go. I actually
42 ended up learning a lot of new things like trouble-shooting art lines and the vent by asking questions.
43 In the end, I'm grateful for the experience (025)*. Others pointed out that learning and progressing in
44 areas that matter to them was very important. One participant wrote: *I learned all about trachea care
45 today. I am so thankful for my preceptor! (002)*. What was frequently brought to the foreground was
46 that collaboration at work mattered. Being able to work together was further enhanced through
47 constructive communication, which was characterized through goal-orientation and professional
48 discussion with colleagues. This was demonstrated by responses like: *-Had a good and professional
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3 *discussion with colleagues (020), or -Great day at work, there were a couple of meetings that*
4
5 *accomplished some previously set goals (029).*
6

7
8 Supportive work environment, good staffing, the ability to take breaks, and manageable workloads
9
10 made for a good day at work *-Unit ran smoothly, 5 in, 5 out (016)* was an often used quotation. Other
11
12 participants commented about a peaceful, well managed, or quiet day at work: *- Had a great, non-*
13
14 *stressful assignment today and my shift went well (025), or - Good calm day at work! (003).* The
15
16 ability to leave work on time was often important for participants: *- got out of work on time; efficient*
17
18 *work/ time management (032).* Other participants stated the activity they could do with loved ones,
19
20 because they were able to leave on time: *- I was able to get out of work on time so that I could spend*
21
22 *time with my husband (018).* Ultimately, when participants could get out of work on time, they had an
23
24 opportunity to engage in meaningful activities with loved ones.
25

26
27 Many participants mentioned that good teamwork and supportive co-workers were important: *-Great*
28
29 *teamwork on the floor today (005).* Co-workers often didn't know each other during individual shifts,
30
31 but were still able to establish good collaboration. This was illustrated by statements like: *-I had a*
32
33 *good day at work even though I was covering a team I didn't know (024).* Another participant
34
35 appreciated the support of the co-workers, which helped them to alleviate personal insecurities: *-Today*
36
37 *I had the opportunity to work with an old co-worker and a new co-worker and we worked together*
38
39 *very well. The day went smoothly and pleasantly because of my awesome podmates. They helped me*
40
41 *with all my concerns and doubts and alleviated my fears (025).* Regularly participant mentioned that it
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43 was good when they could help or support a coworker: *-I assisted a co-worker through a very hectic*
44
45 *day, so we both left on time! (028).* Ultimately, having fun and laughing together, was an important
46
47 aspect of good teamwork. One participant wrote: *- I had a few laughs with my podmate today that*
48
49 *really lightened the mood on such a crazy day (030).* Another stated: *- Laughed with my co-worker*
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51 *after having a long day at work (007).*
52

53 54 **Having supportive relationships** 55 56 57 58 59 60

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3 *Cooked dinner and had the entire family home for a sit-down meal! Good times of laughing and*
4 *sharing! (028)*, this quotation captures important aspects for participants: eating a meal together,
5
6 spending time together, talking and laughing together and caring for the wellbeing of family members.
7
8 A majority of the participants stated regularly that eating a meal together with family members,
9
10 relatives, or friends was good. One participant noted: *-Had breakfast with my mom and dinner with my*
11 *mom-in-law. Love family time on my day off! (025)*. Another participant wrote: *-Reluctantly went to*
12 *dinner with college friends and ended up having a great time (014)*. Relationships in various forms
13
14 were seen as important and included family members, friends, coworkers, and pets. One participant
15
16 wrote: *-Enjoyed family and neighbors at a block party (020)*. Another participant wrote: *-Enjoyed*
17 *watching my dogs and cat play together / I just had to stop and watch them (024)*. Some participants
18
19 wrote about their love for family members or friends: *- Felt loved because family and friends called to*
20 *check on how I was feeling (006)*. A further statement was: *- Enjoyed an evening outside with my*
21 *family! Later was told by my teenage daughter how happy she is I'm her mom and that we have a close*
22 *relationship! Heaven to a mom's ears (028)*.

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32 As highlighted in previous themes, communication was an important aspect in fostering supportive
33
34 relationships. This was illustrated by statements like: *- I had a productive family discussion with my*
35 *children during dinner together (002) or -Felt appreciated by my spouse because we had time to eat*
36 *dinner together and talk (006)*. Other statements included the aspect of talking and laughing together: *-*
37 *Had the opportunity to catch up with my husband. Good talk. Good laughs (028)*. Similarly,
38
39 participants stated the importance of their family members' wellbeing: *- My daughter is healthy (007)*.
40
41 Participants organized doctors' appointments for routine clinic visits or vaccinations: *-My family and I*
42 *got flu vaccine today, I convinced them (008)*, or *-My kids met their new Dr, got their vaccines, and*
43 *weren't scared (016)*. The health status of a family member was also often mentioned, as demonstrated
44
45 by these statements: *-Health of my mother improved a little (026)*, or *-Good preliminary result from*
46 *my husband's upper endoscopy (032)*. Frequently, participants noted that a family member has
47
48 returned safely from a trip: *- I got all my kids home safe from their activities (002)*, or *-My honey*
49 *made it to NY safely (004)*.

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3 The ability of a participant to help someone was positively mentioned. One participant wrote: *-My*
4 *mom feels better with what I have researched what to eat for her renal failure (012)*. Other
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6 participants supported their children for school tasks: *-Found lots of books at the library that will help*
7 *my son on his history project (032)*, or *-Daughter made an A on spelling pretest. I helped her study the*
8 *previous night (003)*. Alternatively, many participants were pleased when they were offered help for
9 chores around the house: *- On the way home stopped at the grocery store and bought items for a*
10 *spaghetti supper. I was joined in the kitchen by my hubby who helped with the pasta and my son who*
11 *washed dishes...then a family meal together. Doesn't take much to make me happy ♥ (029)*.
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13 Frequently, when all errands were done the time was used to relax and was referred to as 'me time'.
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22 **Making meaningful use of self-determined time**

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24 Many participants reported that they loved shopping, working in the garden, being physically active,
25 or reading a book. Participants wrote statements like: *-Enjoyed the fabulous weather by working in*
26 *the yard with my husband. The flowers look fabulous (028)*, or *-completed my workout within the*
27 *required time limit today (030)*, another person noted: *-got to sit by the pool and read my book (022)*.
28
29 Individuals with dogs frequently went for walks: *-I was off and I went for our daily early morning*
30 *walk with my husband and our dogs... The temperature is ideal and the sunrise is beautiful. We walk*
31 *around the golf course in my residence. Felt very good after our walk (019)*. Another person wrote: *-*
32 *Snuggled with my dog / I took advantage of a quiet evening and just relaxed (024)*. Some participants
33 mentioned that being active was important: *- awesome sunrise this morning during our walk/ de-stress*
34 *by walking (019)*. Further statements expressed the importance of sufficient relaxing sleep: *- I was*
35 *able to sleep in, all alone in a quiet house! Completely rested and rejuvenated! (028)* For several
36 participants the ability to what they called 'me time' or 'alone time' was important. Statements like: *-I*
37 *took time for myself, enjoying a book and short nap (028)*, or: *- Went shopping by myself to prepare*
38 *for events tomorrow. Love having some alone time (017)*, were frequent made.
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53 **DISCUSSION**

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3 The analysis of the 'Three Good Things' responses generated three key areas that were important for
4 the NICU health care workers; 1) Having a good day at work, 2) Having supportive relationships and
5 3) Making meaningful use of self-determined time. These themes suggest that achieving work
6 satisfaction, relationship satisfaction, and a sense of autonomy were prevalent components of self-
7 reported positive emotions, offering a pillar upon which to build additional resilience interventions for
8 healthcare workers. References about their work-related tasks that were attempted to positively
9 influence work-related difficulties dovetails with recommendations from the American Psychology
10 Association. The Association encourages individuals to take on an active role in order to achieve work
11 satisfaction and solve work related problems⁷. Additionally, the importance of 'having supportive
12 relationships' for psychological well-being has been well reported in the literature^{3 5 19}. This was
13 captured when participants reported positive aspects about their lives when they spent time with
14 family members, friends, colleagues or pets. Being active together was a positive experience, because
15 it demonstrated connectedness and produced emotional wellbeing, like joy (laugh together, enjoy
16 activities together), pride (pride of an achievement of someone or her own), love and gratefulness¹⁴.
17 According to Fredrickson the effect of positive emotions isn't created through one great feeling but
18 through frequent mild doses of positive emotions, and an importance aspect for health care workers to
19 build resilience^{3 8 9}. In essence, this is what we feel the Three Good Things exercise does – it creates a
20 structure that allows participants to reflect on frequent but relatively simple and small doses of
21 positive emotion.
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42 The American Psychology Association encourages individuals to make connections; which is
43 described as having 'good relationships with close family members, friends or others. Accepting help
44 and support from those who are close and dear to someone is an opportunity to establish such
45 connections. Assisting others when they require help is also beneficial to the helper'⁷. These were all
46 dominant aspects captured in the 'Three Good Things' responses. For example, 'having supportive
47 relationships' captured the aspects of getting help and giving help. Caring for the wellbeing of others,
48 was essential in participants personal life as well as their work environment and included the
49 importance of good communication. Comparable findings were identified in the study by Jackson and
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3 colleagues who reported that building positive professional relationships through networks and
4 mentoring were important aspects for building resilience ⁸.

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6 The identified theme of 'making meaningful use of self-determined time' aligns with important
7 aspects of autonomy, self care, and self reflection (e.g., paying attention to one's own needs and
8 feelings). Here the American Psychological Association encourages individuals to 'engage in activities
9 that they enjoy and find relaxing. And the recommendations also highlight the importance of regular
10 exercise ⁷. These are all vital aspects to an individual's road to resilience. This is supported by studies
11 in which achieving life balance is consistently seen as an important aspect in building resilience in
12 healthcare professionals ^{8,9}.

21 **Implications for health professional leaders**

22
23 The study highlights important aspects for health professional leaders, but what stands out are
24 activities that focus on self-care provide a particular challenge for healthcare workers. Although self-
25 care was often mentioned in statements by participants and captured in the theme about 'making
26 meaningful use of self-determined time' these activities often came last. What is brought to the
27 foreground here is a risk that healthcare professionals put everyone's interest and needs ahead of their
28 own and lack the importance of self-care. By doing so healthcare workers are falling short of looking
29 after their own wellbeing and run the risk of not being able to rebound from adversity and overcome
30 difficult circumstances in one's life. In the end, if healthcare workers are not given the opportunity to
31 strengthen positive emotions, and also attending to their own needs, we might miss an important
32 opportunity to build resilience in a group of individuals at risk for burnout. Thus, health professional
33 leaders have an opportunity here to consider insights on what fosters healthcare workers' positive
34 emotions in a variety of leadership instruments such as regular employee evaluation and career
35 development meetings when coaching for personal growth. Each of these instruments can address
36 specific topics as expressed in the 3 good things exercise e.g. what contributes to a good day at work,
37 what is my role as a professional in it, or how to create a work life balance. Given that Three Good
38 Things as a low-cost, brief, and enjoyable activity for participants, it may serve as a good intervention
39 for healthcare leaders to promote in their work settings. Alternatively, supervisors might instill
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3 questions on positive experiences during team meetings, huddles, or leadership walkrounds to foster
4 wellbeing and resilience in often challenging work and life situations. Simply starting a meeting with
5 “What is one good thing so far this week?” can bring these themes to the attention of leaders and
6
7 coworkers alike.
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10 11 **Limitations**

12 One of the limitations of the study is the relatively high dropout rate of participants during the two-
13 week period. Only a third of participants provided answers for thirteen out of fourteen days of the
14 exercise, while the others provided answers only for the first few days. Participants who provided
15 incomplete information were excluded due to a lack of full description of statements per day. Clearly,
16 it was difficult to engage healthcare workers for the entire study duration; shift work likely contributed
17 strongly to participants’ failure to complete the exercise. Further, the convenience sample may limit
18 the generalization of findings given that it was from a single unit. Nevertheless, the in-depth
19 information provided on positive experiences contributes to the understanding of healthcare
20 professionals’ subjective well-being. What is brought to the foreground is what they think and feel
21 about when asked what went well today.
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35 **Conclusion**

36 This study highlights the importance of supportive relationships, good communication, and common
37 activities that foster positive emotions. Making meaningful use of personal time was a prevalent
38 theme, although limited numbers of healthcare professionals appear to focus on healthy work life
39 balance. This pilot study used NICU healthcare professionals as participants. Further healthcare
40 studies should use this exercise to verify our findings. According to current science, positive emotions
41 and self-care perform important resilience-building functions. Interventions to increase healthcare
42 professionals’ awareness of the importance of self-care for building resilience are needed.
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Contributors

KRL, OM and RS contributed to study conception, data analysis and interpretation. JBS contributed to study site management, data collection, analysis and interpretation. KRL was responsible for manuscript drafting and editing. All authors contributed to manuscript drafting appraisal, revision and editing and read and approved the final manuscript.

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Competing interest

None declared

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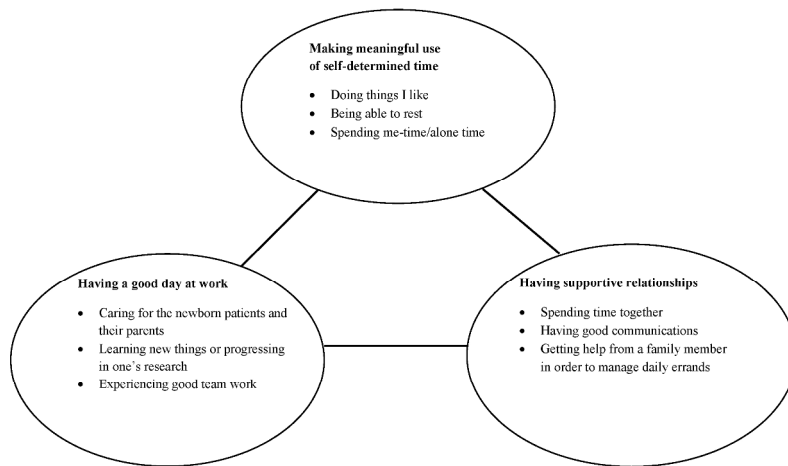
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5 **Figure legend**
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7 Title: Schematic representation of the thematic findings of the Three Good Things exercise
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Figure 1. Schematic representation of the thematic findings of the Three Good Things exercise



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A qualitative analysis of the Three Good Things intervention in health care workers

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3 **A qualitative analysis of the Three Good Things intervention in health care workers**
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ABSTRACT

Background: Intensive Care Unit personnel have an elevated prevalence of job related burnout and posttraumatic stress disorder, which can ultimately impact patient care. To strengthen healthcare workers' skills to deal with stressful events, it is important to focus not only on minimizing suffering but also on increasing happiness, as this entails many more benefits than simply feeling good. Thus, the purpose of this study was to explore the content of the "good things" reported by healthcare workers participating in the Three Good Things intervention.

Methods: In a tertiary care medical center, a sample of 89 neonatal intensive care unit (NICU) healthcare professionals registered for the online intervention. Of these, 32 individuals eventually participated fully in the 14-day online "Three Good Things" intervention survey. Daily emails reminded participants to reflect on and respond to the questions: 'What are the three things that went well today?' and "What was your role in bringing them about?" To analyze their responses, we applied a thematic analysis (TA), which was guided by our theoretical understanding of resilience.

Results: Involving more than 1,300 statements, the 'Three Good Things' responses of the 32 study participants, including registered nurses, physicians, and neonatal nurse practitioners, led to the identification of three main themes: 1) Having a good day at work; 2) Having supportive relationships; and 3) Making meaningful use of self-determined time.

Conclusions: The findings show the personal and professional relevance of supportive relationships strengthened by clear communication and common activities that foster positive emotions. The 'Three Good Things' exercise acknowledges the importance of self-care in healthcare workers and appears to promote wellbeing, which might ultimately strengthen resilience.

Strengths and limitations of this study

- The Three Good Things intervention has been replicated, but has never before been used in healthcare to examine the themes that are generated regarding what is going well.
- These themes offer opportunities for the large and growing number of healthcare leaders working to enhance the resilience of their workforce.
- A relatively high participant dropout rate limits the generalizability of the study findings.
- The results from this single work setting are not generalizable to other work settings in healthcare.

INTRODUCTION

Healthcare workers often face stressful situations including time constraints, high workload, multiple roles, and emotionally challenging moments. The resulting strain can negatively impact workers' resilience, resulting in burnout and compromising their ability to provide the best possible care¹. In comparison to general medical/surgical nurses, Intensive Care Unit (ICU) personnel have an increased prevalence of job related burnout and posttraumatic stress disorder²⁻⁴. There is a need to enhance their resilience, i.e., their ability to adapt, rebound and overcome adversity. Fortunately, resilience can be developed and improved, and functions as a distinct defense against burnout^{5,6}. Despite the benefits of strengthening it, however, relatively little qualitative research has been done to explore the best way to support the resilience of healthcare workers.

The American Psychological Association (APA) highlights that caring and supportive relationships within and outside the family strongly contribute to resilience⁷. Interviewing nurses who had experienced posttraumatic stress, Mealer et al. observed that highly resilient nurses identified spirituality, a supportive social network, optimism, and role models as factors that helped them cope with stress in their work environments³. In a review of the literature, Jackson et al. reported on five factors that assist nurses in developing resilience: a) building positive professional relationships through networks and mentoring; b) maintaining positivity through laughter, optimism, and positive emotions; c) developing the emotional insight to understand one's own risk and protective factors; d) achieving life balance and using spirituality to give one's life meaning and coherence; and e) becoming more reflective.⁸ Additionally, being female and maintaining a work-life balance have consistently been associated with higher resilience across healthcare providers⁹. The construct of resilience often includes topics such as Mindfulness, Purpose, Relationships, Self-care and Self-awareness⁵. The positive psychology movement has developed a number of mature interventions that facilitate and improve resilience in the general population, and could be applied readily to healthcare workers⁵.

Positive Psychology Interventions

Conceived by Seligman and Csikszentmihalyi¹⁰ the field of positive psychology focuses on valued subjective experience relating to the past (well-being, contentment and satisfaction), present (flow, a

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3 state of immersive, active engagement in one's activities, which functions as a factor of happiness),
4 and future (hope and optimism). Within these time contexts, positive psychology further focuses on
5 minimizing suffering and increasing happiness, because happiness brings many more benefits than
6 simply feeling good¹⁰. Happy people are healthier, more successful, and more socially engaged¹¹.
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8 Happiness involves three attributes: a) positive emotions and pleasure; b) an engaged life; and c) a
9 meaningful life. Research has shown that the most satisfied people are those who orient their pursuits
10 toward all three of these goals, with the greatest weight carried by engagement and meaning¹².
11
12 Moreover, Seligman's conceptual PERMA (Positive emotions, Engagement, Relationships, Meaning
13 and Achievement) model functions as a guide to help individuals find ways to flourish¹³. In addition,
14 positive psychology-based studies in organizations have clarified our understanding of how employees
15 can flourish and achieve high potential at work. For example, da Camara et al. have significantly
16 linked meaning, engagement and pleasure in the workplace with positive organizational outcomes,
17 e.g., commitment and job satisfaction¹⁴. Longitudinal intervention studies show that positive emotions
18 play a role in the development of psychological resilience—a skill useful in effective long-term coping
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Overall, as shown in two meta-analyses^{18,19}, positive psychology interventions, including self-help, group and individual therapy (e.g., Three Good Things, hope therapy, well-being therapy) have been effective in enhancing well-being as well as in reducing depressive symptoms. Although various interventions of this type—including online-based self-help techniques such as Three Good Things—focusing on symptom relief, well-being and happiness, have been applied both in healthy and in mentally distressed individuals, little specific information is available regarding the kinds of positive experiences that influence health professionals' subjective well-being. Therefore, the purpose of this study was to explore the content of the good things reported by healthcare workers participating in the three good things intervention.

METHODS

Design and setting

A qualitative study using thematic analysis (TA) was applied to analyze written statements provided by study participants during the 'Three Good Things' intervention. TA uses a systematic approach to identify patterns across a data set, enabling a rich and detailed analysis of participants' perspectives²⁰. Led by a multidisciplinary team of neonatal experts in collaboration with specialized physicians, neonatal nurses, and allied healthcare professionals, data were collected at an academic medical center's Level 3 neonatal intensive care unit (NICU) in the USA.

Recruitment and Sample

Study participants were recruited at the NICU during grand rounds (=approximately 150 eligible health professionals. A total of 89 health professionals (91% female) registered to participate. The sample included physicians, neonatal nurse practitioners, RNs, charge nurses, and allied healthcare professions. Each participant completed an electronic informed consent form (Study Protocol ID: Pro00038083). The study was approved by the Duke Institutional Review Board.

Data collection

The data were collected in October 2012 using the 'Qualtrics' online survey tool. Once participants had registered, a daily e-mail reminder was sent to them at 7pm (EST) on each of the next 14 days. The reminder included a link to text boxes that prompted participants to answer 'What are the three things that went well today, and what was your role in bringing them about'. All written responses were stored in 14 Excel tables, i.e., one table for each day's three responses.

Data Analysis

This study analyzed the data of a sample of 32 participants who provided answers for at least 13 of the 14 days—more than 1,300 statements. Responses were analyzed using TA via a deductive approach, with data analysis and interpretation based on our theoretical understanding of resilience. The analysis incorporated a six-phase iterative process, with movement back and forth throughout the phases and a latent comparison with the original data²⁰: 1) familiarization with the data by reading and rereading the answers several times; 2) coding all answers; 3) identifying potential themes and subthemes and

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3 making comparisons between various participants' data; 4) creating a thematic map and identifying
4 themes for comparison with theoretical assumptions of resilience; 5) ongoing analysis to refine the
5 specifics of each theme and to find the overall story narrative of the analysis; and 6) generation of a
6 report.
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10 RESULTS

11 Analyzing the 32 participants' 'Three Good Things' responses led to the identification of three main
12 themes; 1) Having a good day at work; 2) Having supportive relationships and; 3) Making meaningful
13 use of self-determined time (Figure 1). All quotations are intended to represent the larger group in this
14 study and the phenomenon being explored.
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21 Having a good day at work

22 Participants regularly commented about a 'good day at work' or that their 'day went smoothly'. One
23 participant wrote, "*Overall good day at work, no major problems with my patients*" (032). Here a
24 good day at work included the wellbeing of the caregiver's patients. This was also illustrated in the
25 statement, "*My patient who had been wearing a brace to his foot for 3 hours on and 3 hours off does*
26 *not need it anymore. It effectively corrected his foot position! Everyone who put the brace on made a*
27 *difference!*" (023). The importance of collaboration at work was frequently brought to the foreground.
28 Effective teamwork was further enhanced by constructive communication, which was characterized
29 through goal orientation and professional discussion with colleagues. This was demonstrated by
30 responses such as: "*Had a good and professional discussion with colleagues*" (020), or "*Great day at*
31 *work, there were a couple of meetings that accomplished some previously set goals*" (029).
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45 A supportive work environment, adequate staffing, the ability to take breaks, and manageable
46 workloads made for a good day at work: "*Unit ran smoothly, 5 in, 5 out*" (016) was a common
47 comment. Other participants commented about a peaceful, well managed, or quiet day at work: "*Had a*
48 *great, non-stressful assignment today and my shift went well*" (025), or "*Good calm day at work!*"
49 (003). The ability to leave work on time was often important for participants: "*Got out of work on*
50 *time; efficient work/ time management*" (032). Other participants emphasized activities they could do
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3 with loved ones because they were able to leave on time: “*I was able to get out of work on time so that*
4 *I could spend time with my husband*” (018). Ultimately, participants regarded getting out of work on
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6 time as an opportunity to engage in meaningful activities with loved ones.
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10 Many participants mentioned that good teamwork and supportive co-workers were important: “*Today*
11 *I had the opportunity to work with an old co-worker and a new co-worker and we worked together*
12 *very well. The day went smoothly and pleasantly because of my awesome podmates. They helped me*
13 *with all my concerns and doubts and alleviated my fears*” (025). Participants also regularly mentioned
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15 that it was good when they could help or support a coworker: “*I assisted a co-worker through a very*
16 *hectic day, so we both left on time!*” (028). Having fun and laughing together was an important aspect
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18 of good teamwork. One participant wrote, “*I had a few laughs with my podmate today that really*
19 *lightened the mood on such a crazy day*” (030). Another stated, “[*I*]laughed with my co-worker after
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21 having a long day at work” (007).
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28 29 **Having supportive relationships**

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31 “*Cooked dinner and had the entire family home for a sit-down meal! Good times of laughing and*
32 *sharing!*” (028). This quotation captures several important aspects for participants: eating a meal
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34 together, spending time together, talking and laughing together and caring for the wellbeing of family
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36 members. One participant noted: “*Had breakfast with my mom and dinner with my mom-in-law. Love*
37 *family time on my day off!*” (025). Relationships in various forms were seen as important and included
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39 family members, friends, coworkers, and pets. One participant wrote: “*Enjoyed family and neighbors*
40 *at a block party*” (020). Another wrote, “*Enjoyed watching my dogs and cat play together / I just had*
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42 *to stop and watch them*” (024). Some participants wrote about their love for family members or
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44 friends: “*Felt loved because family and friends called to check on how I was feeling*” (006).
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51 As highlighted in previous themes, communication was an important aspect in fostering supportive
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53 relationships. This was illustrated by statements such as, “*I had a productive family discussion with my*
54 *children during dinner together*” (002) or “*Felt appreciated by my spouse because we had time to eat*
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56 *dinner together and talk*” (006). Other statements included the aspect of talking and laughing together:
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3 *“Had the opportunity to catch up with my husband. Good talk. Good laughs” (028).* Similarly,
4 participants stated the importance of their family members’ wellbeing: *“My daughter is healthy”*
5 *(007), or “My kids met their new Dr, got their vaccines, and weren't scared” (016).* The health status
6 of a family member was also often mentioned, as demonstrated by these statements: *“Health of my*
7 *mother improved a little” (026).* Frequently, participants noted that a family member had returned
8 safely from a trip: *“I got all my kids home safe from their activities” (002), or “My honey made it to*
9 *NY safely” (004).*

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18 Success at helping others in non-professional capacities was positively mentioned. One participant
19 wrote, *“My mom feels better with what I have researched what to eat for her renal failure” (012).*
20 Others supported their children for school tasks: *“Found lots of books at the library that will help my*
21 *son on his history project” (032).* Alternatively, many participants were pleased when they were
22 offered help with chores around the house: *“On the way home stopped at the grocery store and bought*
23 *items for a spaghetti supper. I was joined in the kitchen by my hubby who helped with the pasta and*
24 *my son who washed dishes...then a family meal together. Doesn't take much to make me happy” ♥*
25 *(029).* Frequently, when all errands were done the time was used to relax and was referred to as ‘me
26 time’.
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37 **Making meaningful use of self-determined time**

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40 Many participants reported that they loved shopping, working in the garden, being physically active,
41 or reading a book. Participants wrote statements like: *“Enjoyed the fabulous weather by working in*
42 *the yard with my husband. The flowers look fabulous” (028), or “Completed my workout within the*
43 *required time limit today” (030).* Another person noted, *“got to sit by the pool and read my book”*
44 *(022).* Individuals with dogs frequently went for walks: *“I was off and I went for our daily early*
45 *morning walk with my husband and our dogs... Felt very good after our walk” (019).* Some
46 participants mentioned that being active was important: *“Awesome sunrise this morning during our*
47 *walk/ de-stress by walking” (019).* Further statements expressed the importance of sufficient relaxing
48 sleep: *“I was able to sleep in, all alone in a quiet house! Completely rested and rejuvenated!” (028)*
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3 For several participants the ability to take ‘me time’ or ‘alone time’ was important. Statements such as
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5 “I took time for myself, enjoying a book and short nap” (028), or, “Love having some alone time”
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7 (017), were frequent.

9 10 **DISCUSSION**

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12 Analysis of the NICU health care workers’ ‘Three Good Things’ responses generated three key
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14 themes; 1) Having a good day at work, 2) Having supportive relationships and 3) Making meaningful
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16 use of self-determined time. These themes suggest that achieving work satisfaction, relationship
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18 satisfaction, and a sense of autonomy were prevalent components of self-reported positive emotions,
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20 offering a pillar upon which to build additional resilience interventions for healthcare workers.

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22 References to tasks attempted to ease work-related difficulties dovetail with recommendations from
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24 the American Psychology Association, which encourages individuals to play dynamic roles in
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26 achieving work satisfaction and solving work related problems ⁷. Additionally, the importance of
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28 supportive relationships to psychological well-being has been well reported in the literature ^{3 5 21}. This
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30 was captured when participants reported time spent with family members, friends, colleagues or pets as
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32 high points of their days. Being active together was a positive experience, because it demonstrated
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34 connectedness and produced emotional wellbeing, including joy (laugh together, enjoy activities
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36 together), pride (pride of an achievement of someone or her own), love and gratefulness ¹⁶. According
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38 to Fredrickson (2001), what makes positive emotions important to healthcare workers’ resilience-
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40 building is that they come not in floods but steady trickles ^{3 8 9}. In essence, this is what we feel the
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42 Three Good Things exercise does: it creates a structure that allows participants to reflect on frequent
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44 but relatively simple and small doses of positive emotion.

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47 The American Psychology Association encourages individuals to nurture meaningful connections,
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49 such as ‘good relationships with close family members, friends or others. Accepting help and support
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51 from those who are close and dear is an opportunity to establish such connections. Assisting others
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53 when they require help is also beneficial to the helper’ ⁷. These were all dominant aspects captured in
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55 the ‘Three Good Things’ responses. For example, ‘having supportive relationships’ captured the
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57 aspects of accepting and giving help. Caring for the wellbeing of others, was essential in participants’
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3 personal life as well as their work environment, and included the importance of good communication.
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5 Comparable findings were identified Jackson et al., who reported that positive professional
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7 relationships built through networks and mentoring were important aspects for building resilience⁸.
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9 The identified theme of ‘making meaningful use of self-determined time’ aligns with important
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11 aspects of autonomy, self care, and self reflection (e.g., paying attention to one’s own needs and
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13 feelings). On this point, the American Psychological Association encourages individuals to ‘engage in
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15 activities that they enjoy and find relaxing.’ Their recommendations also highlight the importance of
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17 regular exercise⁷. These points are supported by studies in which achieving life balance is consistently
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19 seen as an important aspect of resilience-building in healthcare professionals^{8,9}.

21 22 **Implications for health professional leaders**

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24 This study highlights numerous important aspects of daily life that are important to health
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26 professionals and their leaders. One point that stands out, though, is that focusing on self-care provides
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28 a particular challenge for healthcare workers. Although self-care was often mentioned in statements by
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30 participants and was grouped under ‘making meaningful use of self-determined time’, where these
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32 activities were listed, they were often listed last. What this brings to the foreground is that, while self-
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34 care bolsters healthcare professionals’ ability to rebound from adversity and overcome difficult
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36 circumstances, many downplay its importance^{22,23}. In the end, if healthcare workers are not given the
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38 opportunity to attend to their own needs, while cultivating positive emotions, we might miss an
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40 important opportunity to build resilience in a vital group at risk for burnout.

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42 A variety of leadership instruments such as regular employee evaluations and career development
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44 meetings offer healthcare managers insights into what fosters positive emotions in their team
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46 members. As expressed in the Three Good Things exercise, each of these instruments can address
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48 specific topics, e.g., what contributes to a good day at work and what professional role does the
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50 respondent play in it, or how does one create a work/life balance. Given that Three Good Things is a
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52 quick, low-cost and enjoyable activity for participants, it may serve as an effective intervention for
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54 healthcare leaders to promote in their work settings. Alternatively, supervisors might pose questions
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56 on positive experiences during team meetings, huddles, or leadership walk-rounds to foster wellbeing
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3 and resilience in often challenging work and life situations. Simply starting a meeting with “What is
4 one good thing so far this week?” can bring these themes to the attention of leaders and coworkers
5 alike. When reflecting on workers’ well-being and leadership contribution, contextual factors depict a
6 complex interplay of individual and workplace characteristics. Among others, these include
7 organizational attributes and work climate, job design and employee health²⁴. Clearly, this implies a
8 comprehensive perspective at the organizational level, including interventions, for example,
9 interventions to providing educational and career opportunities, flexible work arrangements and work
10 scheduling, meaningful job content, and enhanced participation both with colleagues and with
11 supervisors²⁴. In essence, such interventions have to help match individuals’ skills and virtues with
12 the demands of the workplace¹⁴.

23 **Limitations**

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25 One of the limitations of the study was the relatively high dropout rate of participants during the two-
26 week data collection period. Only a third of participants provided answers for at least thirteen of the
27 exercise’s fourteen days, while the others provided answers only for the first few days. Participants
28 who provided incomplete information were excluded due to a lack of a full description of statements
29 per day. Clearly, it was difficult to engage healthcare workers for the entire study duration; shift work
30 likely contributed strongly to participants’ failure to complete the exercise. Further, the fact that the
31 convenience sample was drawn entirely from a single unit may limit the generalization of findings.
32 Nevertheless, the in-depth information provided on positive experiences contributes to the
33 understanding of healthcare professionals’ subjective well-being. What is brought to the foreground is
34 what they think about and feel when asked what went well today.
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46 **Conclusion**

47
48 This study highlights the importance of supportive relationships, open communication, and common
49 activities that foster positive emotions. Making meaningful use of personal time is a prevalent theme,
50 although limited numbers of healthcare professionals appear to focus on maintaining a healthy
51 work/life balance. This pilot study used NICU healthcare professionals as participants. Further
52 healthcare studies should use this exercise to verify our findings. According to current research,
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3 positive emotions and self-care fulfill important resilience-building functions^{18 25}. Interventions are
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5 needed to increase healthcare professionals' awareness of the importance of self-care for building
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7 resilience.
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Contributors

KRL, OM and RS contributed to study conception, data analysis and interpretation. JBS contributed to study site management, data collection, analysis and interpretation. KRL was responsible for manuscript drafting and editing. All authors contributed to manuscript drafting appraisal, revision and editing and read and approved the final manuscript.

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Competing interest

None declared

Data sharing statement

No additional study data are available

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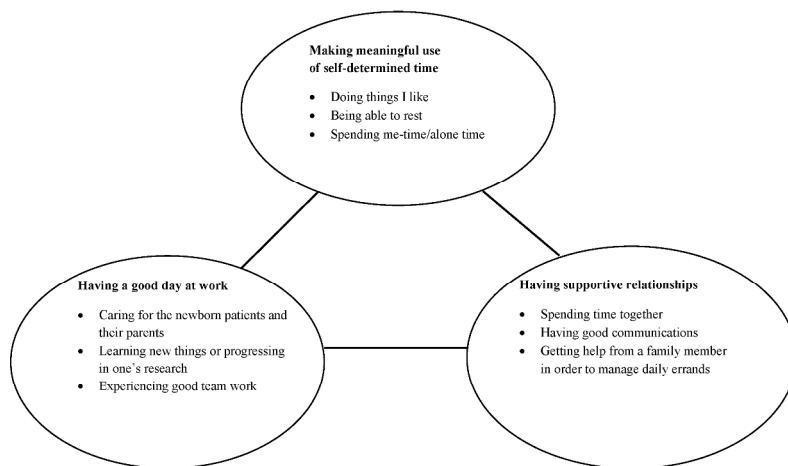
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Title: Schematic representation of the thematic findings of the Three Good Things exercise

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Figure 1. Schematic representation of the thematic findings of the Three Good Things exercise



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A qualitative analysis of the Three Good Things intervention in health care workers

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3 **A qualitative analysis of the Three Good Things intervention in health care workers**
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ABSTRACT

Background: Intensive Care Unit personnel have an elevated prevalence of job related burnout and posttraumatic stress disorder, which can ultimately impact patient care. To strengthen healthcare workers' skills to deal with stressful events, it is important to focus not only on minimizing suffering but also on increasing happiness, as this entails many more benefits than simply feeling good. Thus, the purpose of this study was to explore the content of the "good things" reported by healthcare workers participating in the Three Good Things intervention.

Methods: In a tertiary care medical center, a sample of 89 neonatal intensive care unit (NICU) healthcare professionals registered for the online intervention. Of these, 32 individuals eventually participated fully in the 14-day online "Three Good Things" intervention survey. Daily emails reminded participants to reflect on and respond to the questions: 'What are the three things that went well today?' and "What was your role in bringing them about?" To analyze their responses, we applied a thematic analysis (TA), which was guided by our theoretical understanding of resilience.

Results: Involving more than 1,300 statements, the 'Three Good Things' responses of the 32 study participants, including registered nurses, physicians, and neonatal nurse practitioners, led to the identification of three main themes: 1) Having a good day at work; 2) Having supportive relationships; and 3) Making meaningful use of self-determined time.

Conclusions: The findings show the personal and professional relevance of supportive relationships strengthened by clear communication and common activities that foster positive emotions. The 'Three Good Things' exercise acknowledges the importance of self-care in healthcare workers and appears to promote wellbeing, which might ultimately strengthen resilience.

Strengths and limitations of this study

- The Three Good Things intervention has been replicated, but has never before been used in healthcare to examine the themes that are generated regarding what is going well.
- These themes offer opportunities for the large and growing number of healthcare leaders working to enhance the resilience of their workforce.
- A relatively high participant dropout rate limits the generalizability of the study findings.
- The results from this single work setting are not generalizable to other work settings in healthcare.

INTRODUCTION

Healthcare workers often face stressful situations including time constraints, high workload, multiple roles, and emotionally challenging moments. The resulting strain can negatively impact workers' resilience, resulting in burnout and compromising their ability to provide the best possible care¹. In comparison to general medical/surgical nurses, Intensive Care Unit (ICU) personnel have an increased prevalence of job related burnout and posttraumatic stress disorder²⁻⁴. There is a need to enhance their resilience, i.e., their ability to adapt, rebound and overcome adversity. Fortunately, resilience can be developed and improved, and functions as a distinct defense against burnout^{5,6}. Despite the benefits of strengthening it, however, relatively little qualitative research has been done to explore the best way to support the resilience of healthcare workers.

The American Psychological Association (APA) highlights that caring and supportive relationships within and outside the family strongly contribute to resilience⁷. Interviewing nurses who had experienced posttraumatic stress, Mealer et al. observed that highly resilient nurses identified spirituality, a supportive social network, optimism, and role models as factors that helped them cope with stress in their work environments³. In a review of the literature, Jackson et al. reported on five factors that assist nurses in developing resilience: a) building positive professional relationships through networks and mentoring; b) maintaining positivity through laughter, optimism, and positive emotions; c) developing the emotional insight to understand one's own risk and protective factors; d) achieving life balance and using spirituality to give one's life meaning and coherence; and e) becoming more reflective.⁸ Additionally, being female and maintaining a work-life balance have consistently been associated with higher resilience across healthcare providers⁹. The construct of resilience often includes topics such as Mindfulness, Purpose, Relationships, Self-care and Self-awareness⁵. The positive psychology movement has developed a number of mature interventions that facilitate and improve resilience in the general population, and could be applied readily to healthcare workers⁵.

Positive Psychology Interventions

Conceived by Seligman and Csikszentmihalyi¹⁰ the field of positive psychology focuses on valued subjective experience relating to the past (well-being, contentment and satisfaction), present (flow, a

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3 state of immersive, active engagement in one's activities, which functions as a factor of happiness),
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5 and future (hope and optimism). Within these time contexts, positive psychology further focuses on
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7 minimizing suffering and increasing happiness, because happiness brings many more benefits than
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9 simply feeling good¹⁰. Happy people are healthier, more successful, and more socially engaged¹¹.
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11 Happiness involves three attributes: a) positive emotions and pleasure; b) an engaged life; and c) a
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13 meaningful life. Research has shown that the most satisfied people are those who orient their pursuits
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15 toward all three of these goals, with the greatest weight carried by engagement and meaning¹².
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17 Moreover, Seligman's conceptual PERMA (Positive emotions, Engagement, Relationships, Meaning
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19 and Achievement) model functions as a guide to help individuals find ways to flourish¹³. In addition,
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21 positive psychology-based studies in organizations have clarified our understanding of how employees
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23 can flourish and achieve high potential at work. For example, da Camara et al. have significantly
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25 linked meaning, engagement and pleasure in the workplace with positive organizational outcomes,
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27 e.g., commitment and job satisfaction¹⁴. Longitudinal intervention studies show that positive emotions
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29 play a role in the development of psychological resilience—a skill useful in effective long-term coping
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31¹⁵. Individuals who cultivate these positive factors can use them to cope with negative emotions. Yet,
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33 positive emotions are useful in helping distressed people deal with challenging situations and
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35 overcome negative emotions¹⁶. Other findings from an internet-based Three Good Things exercise
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37 highlight that participants who performed this exercise were happier and less depressed at the one-
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39 month and six-month follow-ups than at baseline¹⁷.
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41 Overall, as shown in two meta-analyses^{18,19}, positive psychology interventions, including self-help,
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43 group and individual therapy (e.g., Three Good Things, hope therapy, well-being therapy) have been
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45 effective in enhancing well-being as well as in reducing depressive symptoms. Although various
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47 interventions of this type—including online-based self-help techniques such as Three Good Things—
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49 focusing on symptom relief, well-being and happiness, have been applied both in healthy and in
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51 mentally distressed individuals, little specific information is available regarding the kinds of positive
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53 experiences that influence health professionals' subjective well-being. Therefore, the purpose of this
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55 study was to explore the content of the good things reported by healthcare workers participating in the
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57 three good things intervention.
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METHODS

Design and setting

A qualitative study using thematic analysis (TA) was applied to analyze written statements provided by study participants during the ‘Three Good Things’ intervention. TA uses a systematic approach to identify patterns across a data set, enabling a rich and detailed analysis of participants’ perspectives²⁰. Led by a multidisciplinary team of neonatal experts in collaboration with specialized physicians, neonatal nurses, and allied healthcare professionals, data were collected at an academic medical center’s Level 3 neonatal intensive care unit (NICU) in the USA.

Recruitment and Sample

Study participants were recruited at the NICU during grand rounds (=approximately 150 eligible health professionals. A total of 89 health professionals (91% female) registered to participate. The sample included physicians, neonatal nurse practitioners, RNs, charge nurses, and allied healthcare professions. Each participant completed an electronic informed consent form (Study Protocol ID: Pro00038083). The study was approved by the Duke Institutional Review Board.

Data collection

The data were collected in October 2012 using the ‘Qualtrics’ online survey tool. Once participants had registered, a daily e-mail reminder was sent to them at 7pm (EST) on each of the next 14 days. The reminder included a link to text boxes that prompted participants to answer ‘What are the three things that went well today, and what was your role in bringing them about’. All written responses were stored in 14 Excel tables, i.e., one table for each day’s three responses.

Data Analysis

This study analyzed the data of a sample of 32 participants who provided answers for at least 13 of the 14 days—more than 1,300 statements. Responses were analyzed using TA via a deductive approach, with data analysis and interpretation based on our theoretical understanding of resilience. The analysis incorporated a six-phase iterative process, with movement back and forth throughout the phases and a latent comparison with the original data²⁰: 1) familiarization with the data by reading and rereading the answers several times; 2) coding all answers; 3) identifying potential themes and subthemes and

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3 making comparisons between various participants' data; 4) creating a thematic map and identifying
4 themes for comparison with theoretical assumptions of resilience; 5) ongoing analysis to refine the
5 specifics of each theme and to find the overall story narrative of the analysis; and 6) generation of a
6 report.
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10 RESULTS

11 Analyzing the 32 participants' 'Three Good Things' responses led to the identification of three main
12 themes; 1) Having a good day at work; 2) Having supportive relationships and; 3) Making meaningful
13 use of self-determined time (Figure 1). All quotations are intended to represent the larger group in this
14 study and the phenomenon being explored.
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21 Having a good day at work

22 Participants regularly commented about a 'good day at work' or that their 'day went smoothly'. One
23 participant wrote, "*Overall good day at work, no major problems with my patients*" (032). Here a
24 good day at work included the wellbeing of the caregiver's patients. This was also illustrated in the
25 statement, "*My patient who had been wearing a brace to his foot for 3 hours on and 3 hours off does*
26 *not need it anymore. It effectively corrected his foot position! Everyone who put the brace on made a*
27 *difference!*" (023). The importance of collaboration at work was frequently brought to the foreground.
28 Effective teamwork was further enhanced by constructive communication, which was characterized
29 through goal orientation and professional discussion with colleagues. This was demonstrated by
30 responses such as: "*Had a good and professional discussion with colleagues*" (020), or "*Great day at*
31 *work, there were a couple of meetings that accomplished some previously set goals*" (029).
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45 A supportive work environment, adequate staffing, the ability to take breaks, and manageable
46 workloads made for a good day at work: "*Unit ran smoothly, 5 in, 5 out*" (016) was a common
47 comment. Other participants commented about a peaceful, well managed, or quiet day at work: "*Had a*
48 *great, non-stressful assignment today and my shift went well*" (025), or "*Good calm day at work!*"
49 (003). The ability to leave work on time was often important for participants: "*Got out of work on*
50 *time; efficient work/ time management*" (032). Other participants emphasized activities they could do
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3 with loved ones because they were able to leave on time: “*I was able to get out of work on time so that*
4 *I could spend time with my husband*” (018). Ultimately, participants regarded getting out of work on
5 time as an opportunity to engage in meaningful activities with loved ones.
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10 Many participants mentioned that good teamwork and supportive co-workers were important: “*Today*
11 *I had the opportunity to work with an old co-worker and a new co-worker and we worked together*
12 *very well. The day went smoothly and pleasantly because of my awesome podmates. They helped me*
13 *with all my concerns and doubts and alleviated my fears*” (025). Participants also regularly mentioned
14 that it was good when they could help or support a coworker: “*I assisted a co-worker through a very*
15 *hectic day, so we both left on time!*” (028). Having fun and laughing together was an important aspect
16 of good teamwork. One participant wrote, “*I had a few laughs with my podmate today that really*
17 *lightened the mood on such a crazy day*” (030). Another stated, “[*I*]laughed with my co-worker after
18 *having a long day at work*” (007).
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28 29 **Having supportive relationships**

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31 “*Cooked dinner and had the entire family home for a sit-down meal! Good times of laughing and*
32 *sharing!*” (028). This quotation captures several important aspects for participants: eating a meal
33 together, spending time together, talking and laughing together and caring for the wellbeing of family
34 members. One participant noted: “*Had breakfast with my mom and dinner with my mom-in-law. Love*
35 *family time on my day off!*” (025). Relationships in various forms were seen as important and included
36 family members, friends, coworkers, and pets. One participant wrote: “*Enjoyed family and neighbors*
37 *at a block party*” (020). Another wrote, “*Enjoyed watching my dogs and cat play together / I just had*
38 *to stop and watch them*” (024). Some participants wrote about their love for family members or
39 friends: “*Felt loved because family and friends called to check on how I was feeling*” (006).
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51 As highlighted in previous themes, communication was an important aspect in fostering supportive
52 relationships. This was illustrated by statements such as, “*I had a productive family discussion with my*
53 *children during dinner together*” (002) or “*Felt appreciated by my spouse because we had time to eat*
54 *dinner together and talk*” (006). Other statements included the aspect of talking and laughing together:
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3 *“Had the opportunity to catch up with my husband. Good talk. Good laughs” (028).* Similarly,
4 participants stated the importance of their family members’ wellbeing: *“My daughter is healthy”*
5 *(007), or “My kids met their new Dr, got their vaccines, and weren't scared” (016).* The health status
6 of a family member was also often mentioned, as demonstrated by these statements: *“Health of my*
7 *mother improved a little” (026).* Frequently, participants noted that a family member had returned
8 safely from a trip: *“I got all my kids home safe from their activities” (002), or “My honey made it to*
9 *NY safely” (004).*

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18 Success at helping others in non-professional capacities was positively mentioned. One participant
19 wrote, *“My mom feels better with what I have researched what to eat for her renal failure” (012).*
20 Others supported their children for school tasks: *“Found lots of books at the library that will help my*
21 *son on his history project” (032).* Alternatively, many participants were pleased when they were
22 offered help with chores around the house: *“On the way home stopped at the grocery store and bought*
23 *items for a spaghetti supper. I was joined in the kitchen by my hubby who helped with the pasta and*
24 *my son who washed dishes...then a family meal together. Doesn't take much to make me happy” ♥*
25 *(029).* Frequently, when all errands were done the time was used to relax and was referred to as ‘me
26 time’.

37 **Making meaningful use of self-determined time**

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40 Many participants reported that they loved shopping, working in the garden, being physically active,
41 or reading a book. Participants wrote statements like: *“Enjoyed the fabulous weather by working in*
42 *the yard with my husband. The flowers look fabulous” (028), or “Completed my workout within the*
43 *required time limit today” (030).* Another person noted, *“got to sit by the pool and read my book”*
44 *(022).* Individuals with dogs frequently went for walks: *“I was off and I went for our daily early*
45 *morning walk with my husband and our dogs... Felt very good after our walk” (019).* Some
46 participants mentioned that being active was important: *“Awesome sunrise this morning during our*
47 *walk/ de-stress by walking” (019).* Further statements expressed the importance of sufficient relaxing
48 sleep: *“I was able to sleep in, all alone in a quiet house! Completely rested and rejuvenated!” (028)*
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3 For several participants the ability to take ‘me time’ or ‘alone time’ was important. Statements such as
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5 “I took time for myself, enjoying a book and short nap” (028), or, “Love having some alone time”
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7 (017), were frequent.

9 10 **DISCUSSION**

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12 Analysis of the NICU health care workers’ ‘Three Good Things’ responses generated three key
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14 themes; 1) Having a good day at work, 2) Having supportive relationships and 3) Making meaningful
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16 use of self-determined time. These themes suggest that achieving work satisfaction, relationship
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18 satisfaction, and a sense of autonomy were prevalent components of self-reported positive emotions,
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20 offering a pillar upon which to build additional resilience interventions for healthcare workers.
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22 References to tasks attempted to ease work-related difficulties dovetail with recommendations from
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24 the American Psychology Association, which encourages individuals to play dynamic roles in
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26 achieving work satisfaction and solving work related problems ⁷. Additionally, the importance of
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28 supportive relationships to psychological well-being has been well reported in the literature ^{3 5 21}. This
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30 was captured when participants reported time spent with family members, friends, colleagues or pets as
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32 high points of their days. Being active together was a positive experience, because it demonstrated
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34 connectedness and produced emotional wellbeing, including joy (laugh together, enjoy activities
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36 together), pride (pride of an achievement of someone or her own), love and gratefulness ¹⁶. According
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38 to Fredrickson (2001), what makes positive emotions important to healthcare workers’ resilience-
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40 building is that they come not in floods but steady trickles ^{3 8 9}. In essence, this is what we feel the
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42 Three Good Things exercise does: it creates a structure that allows participants to reflect on frequent
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44 but relatively simple and small doses of positive emotion.

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47 The American Psychology Association encourages individuals to nurture meaningful connections,
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49 such as ‘good relationships with close family members, friends or others. Accepting help and support
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51 from those who are close and dear is an opportunity to establish such connections. Assisting others
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53 when they require help is also beneficial to the helper’ ⁷. These were all dominant aspects captured in
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55 the ‘Three Good Things’ responses. For example, ‘having supportive relationships’ captured the
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57 aspects of accepting and giving help. Caring for the wellbeing of others, was essential in participants’
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3 personal life as well as their work environment, and included the importance of good communication.
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5 Comparable findings were identified Jackson et al., who reported that positive professional
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7 relationships built through networks and mentoring were important aspects for building resilience⁸.
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9 The identified theme of ‘making meaningful use of self-determined time’ aligns with important
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11 aspects of autonomy, self care, and self reflection (e.g., paying attention to one’s own needs and
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13 feelings). On this point, the American Psychological Association encourages individuals to ‘engage in
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15 activities that they enjoy and find relaxing.’ Their recommendations also highlight the importance of
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17 regular exercise⁷. These points are supported by studies in which achieving life balance is consistently
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19 seen as an important aspect of resilience-building in healthcare professionals^{8,9}.

21 22 **Implications for health professional leaders**

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24 This study highlights numerous important aspects of daily life that are important to health
25
26 professionals and their leaders. One point that stands out, though, is that focusing on self-care provides
27
28 a particular challenge for healthcare workers. Although self-care was often mentioned in statements by
29
30 participants and was grouped under ‘making meaningful use of self-determined time’, where these
31
32 activities were listed, they were often listed last. What this brings to the foreground is that, while self-
33
34 care bolsters healthcare professionals’ ability to rebound from adversity and overcome difficult
35
36 circumstances, many downplay its importance^{22,23}. In the end, if healthcare workers are not given the
37
38 opportunity to attend to their own needs, while cultivating positive emotions, we might miss an
39
40 important opportunity to build resilience in a vital group at risk for burnout.

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42 A variety of leadership instruments such as regular employee evaluations and career development
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44 meetings offer healthcare managers insights into what fosters positive emotions in their team
45
46 members. As expressed in the Three Good Things exercise, each of these instruments can address
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48 specific topics, e.g., what contributes to a good day at work and what professional role does the
49
50 respondent play in it, or how does one create a work/life balance. Given that Three Good Things is a
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52 quick, low-cost and enjoyable activity for participants, it may serve as an effective intervention for
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54 healthcare leaders to promote in their work settings. Alternatively, supervisors might pose questions
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56 on positive experiences during team meetings, huddles, or leadership walk-rounds to foster wellbeing
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3 and resilience in often challenging work and life situations. Simply starting a meeting with “What is
4 one good thing so far this week?” can bring these themes to the attention of leaders and coworkers
5 alike. When reflecting on workers’ well-being and leadership contribution, contextual factors depict a
6 complex interplay of individual and workplace characteristics. Among others, these include
7 organizational attributes and work climate, job design and employee health²⁴. Clearly, this implies a
8 comprehensive perspective at the organizational level, including interventions, for example,
9 interventions to providing educational and career opportunities, flexible work arrangements and work
10 scheduling, meaningful job content, and enhanced participation both with colleagues and with
11 supervisors²⁴. In essence, such interventions have to help match individuals’ skills and virtues with
12 the demands of the workplace¹⁴.

23 **Limitations**

24
25 One of the limitations of the study was the relatively high dropout rate of participants during the two-
26 week data collection period. Only a third of participants provided answers for at least thirteen of the
27 exercise’s fourteen days, while the others provided answers only for the first few days. Participants
28 who provided incomplete information were excluded due to a lack of a full description of statements
29 per day. Clearly, it was difficult to engage healthcare workers for the entire study duration; shift work
30 likely contributed strongly to participants’ failure to complete the exercise. Further, the fact that the
31 convenience sample was drawn entirely from a single unit may limit the generalization of findings.
32 Nevertheless, the in-depth information provided on positive experiences contributes to the
33 understanding of healthcare professionals’ subjective well-being. What is brought to the foreground is
34 what they think about and feel when asked what went well today.
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46 **Conclusion**

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48 This study highlights the importance of supportive relationships, open communication, and common
49 activities that foster positive emotions. Making meaningful use of personal time is a prevalent theme,
50 although limited numbers of healthcare professionals appear to focus on maintaining a healthy
51 work/life balance. This pilot study used NICU healthcare professionals as participants. Further
52 healthcare studies should use this exercise to verify our findings. According to current research,
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3 positive emotions and self-care fulfill important resilience-building functions^{18 25}. Interventions are
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5 needed to increase healthcare professionals' awareness of the importance of self-care for building
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7 resilience.
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Contributors

KRL, OM and RS contributed to study conception, data analysis and interpretation. JBS contributed to study site management, data collection, analysis and interpretation. KRL was responsible for manuscript drafting and editing. All authors contributed to manuscript drafting appraisal, revision and editing and read and approved the final manuscript.

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Competing interest

None declared

Data sharing statement

No additional study data are available

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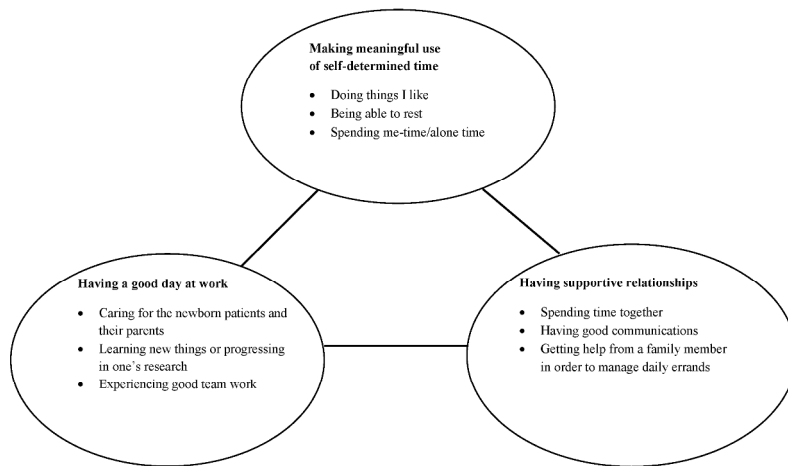
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7 **Figure legend**

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9 Title: Schematic representation of the thematic findings of the Three Good Things exercise
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Figure 1. Schematic representation of the thematic findings of the Three Good Things exercise



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3 **Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist**
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No	Item	Guide questions/description
Domain 1:		
Research team and reflexivity		
Personal Characteristics		
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group? <i>No interviews were conducted but email questions prompted responses.</i>
2.	Credentials	What were the researcher's credentials? <i>Researcher's credentials included PhD.</i>
3.	Occupation	What was their occupation at the time of the study? <i>Psychologist, Nurse academics, Nurse specialist, Chief Patient Safety Officer.</i>
4.	Gender	Was the researcher male or female? <i>1 female, 3 males.</i>
5.	Experience and training	What experience or training did the researcher have? <i>Extensive clinical experience and scientific training including qualitative and quantitative methods.</i>
Relationship with participants		
6.	Relationship established	Was a relationship established prior to study commencement? <i>Only contact via invitation to participate in study.</i>
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? <i>Reasons for doing the study</i>
8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? <i>Only information, that participation is voluntary and the responses will be analyzed.</i>
Domain 2: study design		
Theoretical framework		
9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? <i>Thematic analysis</i>
Participant selection		
10.	Sampling	How were participants selected? <i>Convenience</i>

No	Item	Guide questions/description
11.	Method of approach	How were participants approached? <i>First: personal during clinical grand rounds, second: via email</i>
12.	Sample size	How many participants were in the study? 32
13.	Non-participation	How many people refused to participate or dropped out? Reasons? <i>Unknown, reasons for drop out included incomplete set of responses</i>
Setting		
14.	Setting of data collection	Where was the data collected? <i>Since via email no defined place of data collection</i>
15.	Presence of non-participants	Was anyone else present besides the participants and researchers? <i>Researcher was not present during the data collection, unknown for non-participants</i>
16.	Description of sample	What are the important characteristics of the sample? <i>Data available about gender and occupation e.g. type of health profession</i>
Data collection		
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested? <i>Interview question is based on earlier work by Seligman et al. E-mail based question prompting responses</i>
18.	Repeat interviews	Were repeat interviews carried out? If yes, how many? <i>The same question every day for 14 days</i>
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data? <i>No</i>
20.	Field notes	Were field notes made during and/or after the interview or focus group? <i>No</i>
21.	Duration	What was the duration of the interviews or focus group? <i>It usually took 3-5 minutes for responding to the question (per day)</i>
22.	Data saturation	Was data saturation discussed? <i>No</i>
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction? <i>No</i>

Domain 3: analysis and findingsz

Data analysis

24.	Number of data coders	How many data coders coded the data?
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No	Item	Guide questions/description
25.	Description of the coding tree	<p><i>One, with ongoing discussion with senior reseracher</i></p> <p>Did authors provide a description of the coding tree? <i>Yes, following the thematic analysis iterative process of six phases</i></p>
26.	Derivation of themes	<p>Were themes identified in advance or derived from the data? <i>Themes were deductively identified i.e. analysis and interpretation of the data was based on the theoretical understanding of the phenomenon of interest(resilience)</i></p>
27.	Software	<p>What software, if applicable, was used to manage the data? <i>No specific analysis software was used, but Excel tables for data display (response statements)</i></p>
28.	Participant checking	<p>Did participants provide feedback on the findings? <i>No</i></p>
Reporting		
29.	Quotations presented	<p>Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? <i>Yes, individual participant numbers (anonymized) are presented</i></p>
30.	Data and findings consistent	<p>Was there consistency between the data presented and the findings? <i>Yes</i></p>
31.	Clarity of major themes	<p>Were major themes clearly presented in the findings? <i>Yes, three main themes</i></p>
32.	Clarity of minor themes	<p>Is there a description of diverse cases or discussion of minor themes? <i>Yes, with examples reflecting literature findings</i></p>