

Appendix 1

Table 1 -6 with extended results for the selected subgroups.

Table 1: Comparing ward managers' answers from Survey I and Survey II

No	Question	N ^a	n	Negative ranks	n	Positive ranks	Ties, n	P
1	I felt able to communicate quickly, clearly and transparently to my employees and collaborators	53	14	15.86	13	12.00	26	0.40
2	I was able to work in a way that was consistent with my beliefs and values	53	21	16.24	10	15.50	22	0.05*
3	I have taken on management duties and responsibilities that I did not have before COVID-19	53	18	17.53	14	15.18	21	0.32
4	I had overview of the tasks my nearest leader assigned to me	53	11	10.55	12	13.33	53	0.48
5	I knew where to find factual knowledge of symptoms stage of the COVID-19 situation as it developed and disease	53	11	13.27	14	12.79	28	0.63
6	I was prepared for each stage of the COVID-19 situation as it developed	53	23	18.52	12	17.00	18	0.05*
7	I had meaningful tasks during the COVID-19 situation	53	7	13.79	16	11.22	30	0.17
8	I had influence on the decisions taken during the COVID-19 situation	53	21	20.05	15	16.33	17	0.14
9	I took complex decisions during the COVID-19 situation	53	20	18.30	15	17.60	18	0.39
10	I had to assign staff to other tasks than they are employed to do	53	20	21.08	19	18.87	14	0.65
11	I had to move / lend out staff to other units / departments	53	11	12.91	15	13.93	27	0.39
12	I had the necessary resources to effectively care for patients and staff	51	14	17.29	19	16.79	18	0.47
13	I was able to ensure that that the patients' needs were met	45	6	10.67	1	8.92	27	0.32
14	I was able to answer patients' questions about COVID-19	35	9	9.28	7	7.50	19	0.38
15	I was concerned about the quality of treatment and care for our patients	43	12	16.25	20	16.65	11	0.18
16	I was kept well informed by my own nearest leader	53	10	9.20	8	9.88	35	0.76
17	I was able to answer staff questions about COVID-19	53	12	10.29	7	9.50	34	0.20
18	I felt overloaded	53	19	17.24	11	12.50	23	0.04*
19	I was concerned about the health and well-being of the staff	53	18	19.50	18	17.50	17	0.76
20	I was worried about my own health	53	22	15.80	7	12.50	24	0.00*
21	I was worried about my family's health	53	16	16.31	14	14.57	23	0.52
22	I had the managerial competences I needed to effectively manage the situation	53	13	12.50	11	12.50	29	0.68
23	Collaboration with the other leaders in my own department was adversely affected by the COVID-19 situation	53	16	16.81	15	15.13	22	0.67
24	I experienced support from my leader colleagues in the rest of the organization	53	15	16.13	16	15.88	22	0.90
25	I was supported by the staff of my department / unit with the decisions I made	53	11	12.50	15	14.23	27	0.29
26	The staff supported the decisions of the hospital management	53	16	15.00	16	18.00	21	0.63
27	I feel well prepared if a similar situation arise again	53	18	15.83	12	15.00	23	0.22

Negative ranks (number of participants who scored lower in the second, than in the first questionnaire), positive ranks (number of participants who scored higher in the second, than in the first questionnaire), and ties (number of participants who scores the same in both questionnaires). Low scores represent "Always to Often" and high scores represent "Seldom to Never/Almost Never".

^aThe possibility to answer "not relevant in question 12 – 15 inflects on the N (and thereby the n's) as these answers are excluded to insure equality.

* = P-values are considered significant when ≤ 0.05.

Table 2: Comparing Heads of Departments' answers from Survey I and Survey II

No	Question	N ^a	n	Negative ranks	n	Positive ranks	Ties	P
1	I felt able to communicate quickly, clearly and transparently to my employees and collaborators	30	6	5.50	4	5.50	20	0.53
2	I was able to work in a way that was consistent with my beliefs and values	30	6	7.58	7	6.50	17	1.00
3	I have taken on management duties and responsibilities that I did not have before COVID-19	30	9	11.94	11	9.32	10	0.92
4	I had overview of the tasks my nearest leader assigned to me	30	13	9.15	4	8.50	13	0.03*
5	I knew where to find factual knowledge of symptoms stage of the COVID-19 situation as it developed and disease	30	7	6.86	5	6.00	18	0.44
6	I was prepared for each stage of the COVID-19 situation as it developed	30	15	13.33	8	9.50	7	0.05*
7	I had meaningful tasks during the COVID-19 situation	30	9	7.00	3	5.00	18	0.05*
8	I had influence on the decisions taken during the COVID-19 situation	30	14	9.64	3	6.00	13	0.00*
9	I took complex decisions during the COVID-19 situation	30	9	6.83	3	5.50	18	0.06
10	I had to assign staff to other tasks than they are employed to do	30	10	8.35	9	11.83	11	0.63
11	I had to move / lend out staff to other units / departments	30	6	7.25	10	9.25	14	0.19
12	I had the necessary resources to effectively care for patients and staff	27	5	4.80	3	4.00	19	0.37
13	I was able to ensure that the patients' needs were met	28	8	8.25	6	6.50	14	0.36
14	I was able to answer patients' questions about COVID-19	23	3	3.50	3	3.50	17	1.00
15	I was concerned about the quality of treatment and care for our patients	27	5	6.30	10	8.85	12	0.10
16	I was kept well informed by my own nearest leader	30	12	8.13	3	7.50	15	0.02*
17	I was able to answer staff questions about COVID-19	30	5	4.50	3	4.50	22	0.48
18	I felt overloaded	30	3	4.50	9	9.44	13	0.66
19	I was concerned about the health and well-being of the staff	30	8	8.44	8	8.56	14	0.98
20	I was worried about my own health	30	10	8.80	6	8.00	14	0.25
21	I was worried about my family's health	30	10	6.85	3	7.50	17	0.09
22	I had the managerial competences I needed to effectively manage the situation	30	6	7.00	7	7.00	17	0.78
23	Collaboration with the other leaders in my own department was adversely affected by the COVID-19 situation	30	10	7.15	5	9.70	15	0.50
24	I experienced support from my leader colleagues in the rest of the organization	30	8	6.75	8	6.75	18	0.20
25	I was supported by the staff of my department / unit with the decisions I made	30	5	7.80	8	6.50	17	0.64
26	The staff supported the decisions of the hospital management	30	8	6.50	6	5.25	20	0.67
27	I feel well prepared if a similar situation arise again	30	10	8.30	6	8.83	14	0.40

Negative ranks (number of participants who scored lower in the second, than in the first questionnaire), positive ranks (number of participants who scored higher in the second, than in the first questionnaire), and ties (number of participants who scores the same in both questionnaires). Low scores represent "Always to Often" and high scores represent "Seldom to Never/Almost Never".

^aThe possibility to answer "not relevant in question 12 – 15 inflects on the N (and thereby the n's) as these answers are excluded to insure equality.

* = P-values are considered significant when ≤ 0.05 .

Table 3: Comparing answers from Survey I and Survey II from leaders with no management education

No	Question	N ^a	n	Negative ranks	n	Positive ranks	Ties	P
1	I felt able to communicate quickly, clearly and transparently to my employees and collaborators	26	6	5.83	4	5.00	16	0.41
2	I was able to work in a way that was consistent with my beliefs and values	26	7	5.50	4	6.88	15	0.59
3	I have taken on management duties and responsibilities that I did not have before COVID-19	26	8	8.00	7	8.00	11	0.82
4	I had overview of the tasks my nearest leader assigned to me	26	6	6.00	5	6.00	15	0.76
5	I knew where to find factual knowledge of symptoms stage of the COVID-19 situation as it developed and disease	26	4	5.00	5	5.00	17	0.74
6	I was prepared for each stage of the COVID-19 situation as it developed	26	12	10.00	6	8.50	8	0.10
7	I had meaningful tasks during the COVID-19 situation	26	4	5.50	4	3.50	18	0.56
8	I had influence on the decisions taken during the COVID-19 situation	26	13	11.38	6	7.00	7	0.03*
9	I took complex decisions during the COVID-19 situation	26	10	6.65	3	8.17	13	0.12
10	I had to assign staff to other tasks than they are employed to do	26	6	7.92	11	9.59	9	0.15
11	I had to move / lend out staff to other units / departments	26	7	8.14	8	7.88	11	0.86
12	I had the necessary resources to effectively care for patients and staff	24	6	6.50	7	7.43	11	0.62
13	I was able to ensure that the patients' needs were met	23	4	5.00	6	5.83	13	0.41
14	I was able to answer patients' questions about COVID-19	15	1	1.50	1	1.50	13	1.00
15	I was concerned about the quality of treatment and care for our patients	22	6	8.50	12	10.00	4	0.12
16	I was kept well informed by my own nearest leader	26	8	6.19	3	5.50	15	0.11
17	I was able to answer staff questions about COVID-19	26	6	4.50	2	4.50	18	0.16
18	I felt overloaded	26	6	6.50	6	6.50	14	1.00
19	I was concerned about the health and well-being of the staff	26	12	9.50	6	9.50	8	0.18
20	I was worried about my own health	26	12	8.25	3	7.00	11	0.02*
21	I was worried about my family's health	26	8	7.13	5	6.80	13	0.40
22	I had the managerial competences I needed to effectively manage the situation	26	5	4.50	3	4.50	18	0.48
23	Collaboration with the other leaders in my own department was adversely affected by the COVID-19 situation	26	8	7.19	5	6.70	13	0.38
24	I experienced support from my leader colleagues in the rest of the organization	26	5	6.60	6	5.50	15	1.00
25	I was supported by the staff of my department / unit with the decisions I made	26	3	6.00	10	7.30	13	0.04*
26	The staff supported the decisions of the hospital management	26	5	5.50	8	7.94	13	0.18
27	I feel well prepared if a similar situation arise again	26	10	8.25	5	7.50	11	0.16

Negative ranks (number of participants who scored lower in the second, than in the first questionnaire), positive ranks (number of participants who scored higher in the second, than in the first questionnaire), and ties (number of participants who scores the same in both questionnaires). Low scores represent "Always to Often" and high scores represent "Seldom to Never/Almost Never".

^aThe possibility to answer "not relevant in question 12 – 15 inflects on the N (and thereby the n's) as these answers are excluded to insure equality.

* = P-values are considered significant when ≤ 0.05 .

Table 4: Comparing answers from Survey I and Survey II from leaders with a formal management education

No	Question	N ^a	n	Negative ranks	n	Positive ranks	Ties	P
1	I felt able to communicate quickly, clearly and transparently to my employees and collaborators	60	14	16.04	14	12.96	32	0.60
2	I was able to work in a way that was consistent with my beliefs and values	60	22	19.30	13	15.81	25	0.06
3	I have taken on management duties and responsibilities that I did not have before COVID-19	60	19	21.53	18	16.33	23	0.36
4	I had overview of the tasks my nearest leader assigned to me	60	19	15.68	13	17.69	28	0.49
5	I knew where to find factual knowledge of symptoms stage of the COVID-19 situation as it developed and disease	60	14	15.61	15	14.43	31	0.98
6	I was prepared for each stage of the COVID-19 situation as it developed	60	26	22.54	15	18.33	19	0.03*
7	I had meaningful tasks during the COVID-19 situation	60	12	16.63	17	13.85	31	0.67
8	I had influence on the decisions taken during the COVID-19 situation	60	25	20.66	13	17.27	22	0.03*
9	I took complex decisions during the COVID-19 situation	60	20	18.18	13	15.19	27	0.13
10	I had to assign staff to other tasks than they are employed to do	60	24	23.42	20	21.40	16	0.41
11	I had to move / lend out staff to other units / departments	60	9	13.78	18	14.11	33	0.11
12	I had the necessary resources to effectively care for patients and staff	58	14	17.93	19	16.32	25	0.58
13	I was able to ensure that that the patients' needs were met	56	12	16.04	15	12.37	29	0.93
14	I was able to answer patients' questions about COVID-19	46	12	11.75	9	10.00	25	0.33
15	I was concerned about the quality of treatment and care for our patients	54	13	16.27	21	18.26	20	0.13
16	I was kept well informed by my own nearest leader	60	15	12.03	9	13.28	36	0.35
17	I was able to answer staff questions about COVID-19	60	11	10.91	9	10.00	40	0.53
18	I felt overloaded	60	23	20.63	15	17.77	22	0.10
19	I was concerned about the health and well-being of the staff	60	17	20.26	21	18.88	22	0.68
20	I was worried about my own health	60	23	18.70	11	15.00	26	0.01*
21	I was worried about my family's health	60	18	17.44	13	14.00	29	0.16
22	I had the managerial competences I needed to effectively manage the situation	60	14	16.00	17	16.00	29	0.59
23	Collaboration with the other leaders in my own department was adversely affected by the COVID-19 situation	60	21	17.50	14	18.75	25	0.37
24	I experienced support from my leader colleagues in the rest of the organization	60	18	18.00	18	19.00	24	0.88
25	I was supported by the staff of my department / unit with the decisions I made	60	12	14.92	16	14.19	32	0.55
26	The staff supported the decisions of the hospital management	60	15	16.80	17	16.24	28	0.81
27	I feel well prepared if a similar situation arise again	60	18	16.42	14	16.61	28	0.51

Negative ranks (number of participants who scored lower in the second, than in the first questionnaire), positive ranks (number of participants who scored higher in the second, than in the first questionnaire), and ties (number of participants who scores the same in both questionnaires). Low scores represent "Always to Often" and high scores represent "Seldom to Never/Almost Never".

^aThe possibility to answer "not relevant in question 12 – 15 inflects on the N (and thereby the n's) as these answers are excluded to insure equality.

* = P-values are considered significant when ≤ 0.05 .

Table 5: Comparing answers from Survey I and Survey II from leaders with 0 - 2 years of experience as a leader

No	Question	N ^a	n	Negative ranks	n	Positive ranks	Ties	P
1	I felt able to communicate quickly, clearly and transparently to my employees and collaborators	10	1	1.50	1	1.50	8	1.00
2	I was able to work in a way that was consistent with my beliefs and values	10	4	3.00	1	3.00	5	0.18
3	I have taken on management duties and responsibilities that I did not have before COVID-19	10	4	3.00	2	4.50	4	0.74
4	I had overview of the tasks my nearest leader assigned to me	10	2	3.00	3	3.00	5	0.66
5	I knew where to find factual knowledge of symptoms stage of the COVID-19 situation as it developed and disease	10	2	3.00	3	3.00	5	0.66
6	I was prepared for each stage of the COVID-19 situation as it developed	10	3	5.33	5	4.00	2	0.76
7	I had meaningful tasks during the COVID-19 situation	10	2	3.75	3	2.50	5	1.00
8	I had influence on the decisions taken during the COVID-19 situation	10	6	4.83	2	3.50	2	0.11
9	I took complex decisions during the COVID-19 situation	10	2	2.25	1	1.50	7	0.41
10	I had to assign staff to other tasks than they are employed to do	10	5	4.00	3	5.33	2	0.76
11	I had to move / lend out staff to other units / departments	10	2	3.50	5	4.20	3	0.23
12	I had the necessary resources to effectively care for patients and staff	10	5	4.80	3	4.00	2	0.37
13	I was able to ensure that that the patients' needs were met	10	1	1.50	2	2.25	7	0.41
14	I was able to answer patients' questions about COVID-19	8	2	2.00	1	2.00	5	0.56
15	I was concerned about the quality of treatment and care for our patients	10	2	6.25	8	5.31	0	0.11
16	I was kept well informed by my own nearest leader	10	3	2.67	1	2.00	6	0.26
17	I was able to answer staff questions about COVID-19	10	3	2.50	1	2.50	6	0.32
18	I felt overloaded	10	6	4.00	2	6.00	2	0.37
19	I was concerned about the health and well-being of the staff	10	3	3.50	5	5.10	2	0.27
20	I was worried about my own health	10	3	2.83	1	1.50	6	0.19
21	I was worried about my family's health	10	1	3.50	5	3.50	4	0.10
22	I had the managerial competences I needed to effectively manage the situation	10	2	2.00	1	2.00	7	0.56
23	Collaboration with the other leaders in my own department was adversely affected by the COVID-19 situation	10	2	2.00	1	2.00	7	0.56
24	I experienced support from my leader colleagues in the rest of the organization	10	1	1.00	0	0.00	9	0.32
25	I was supported by the staff of my department / unit with the decisions I made	10	1	3.00	4	3.00	5	0.18
26	The staff supported the decisions of the hospital management	10	2	1.50	0	0.00	8	0.18
27	I feel well prepared if a similar situation arise again	10	1	2.00	2	2.00	7	0.56

Negative ranks (number of participants who scored lower in the second, than in the first questionnaire), positive ranks (number of participants who scored higher in the second, than in the first questionnaire), and ties (number of participants who scores the same in both questionnaires). Low scores represent "Always to Often" and high scores represent "Seldom to Never/Almost Never".

^aThe possibility to answer "not relevant in question 12 – 15 inflects on the N (and thereby the n's) as these answers are excluded to insure equality.

Table 6: Comparing answers from Survey I and Survey II from leaders with 5 or more years of experience as a leader

No	Question	N ^a	n	Negative ranks	n	Positive ranks	Ties	P
1	I felt able to communicate quickly, clearly and transparently to my employees and collaborators	57	13	13.35	11	11.50	33	0.46
2	I was able to work in a way that was consistent with my beliefs and values	57	17	15.41	12	14.42	28	0.31
3	I have taken on management duties and responsibilities that I did not have before COVID-19	57	17	21.35	20	17.00	20	0.86
4	I had overview of the tasks my nearest leader assigned to me	57	18	13.00	9	16.00	30	0.25
5	I knew where to find factual knowledge of symptoms stage of the COVID-19 situation as it developed and disease	57	12	14.17	14	12.93	31	0.88
6	I was prepared for each stage of the COVID-19 situation as it developed	57	25	20.78	13	17.04	19	0.02*
7	I had meaningful tasks during the COVID-19 situation	57	10	14.10	14	11.36	33	0.78
8	I had influence on the decisions taken during the COVID-19 situation	57	23	19.52	13	16.69	21	0.05*
9	I took complex decisions during the COVID-19 situation	57	17	15.06	12	14.92	28	0.39
10	I had to assign staff to other tasks than they are employed to do	57	17	19.50	19	17.61	21	0.98
11	I had to move / lend out staff to other units / departments	57	11	13.55	16	14.31	30	0.32
12	I had the necessary resources to effectively care for patients and staff	54	12	13.88	16	14.97	26	0.38
13	I was able to ensure that that the patients' needs were met	49	12	14.08	13	12.00	24	0.85
14	I was able to answer patients' questions about COVID-19	40	8	8.88	7	7.00	25	0.50
15	I was concerned about the quality of treatment and care for our patients	46	11	14.59	19	16.03	16	0.13
16	I was kept well informed by my own nearest leader	57	16	11.38	6	11.83	35	0.05*
17	I was able to answer staff questions about COVID-19	57	10	9.50	8	9.50	39	0.64
18	I felt overloaded	57	17	17.15	14	14.61	26	0.36
19	I was concerned about the health and well-being of the staff	57	17	18.88	17	16.12	23	0.66
20	I was worried about my own health	57	22	17.50	11	16.00	24	0.04*
21	I was worried about my family's health	57	21	17.19	12	16.67	24	0.12
22	I had the managerial competences I needed to effectively manage the situation	57	13	15.00	16	15.00	28	0.58
23	Collaboration with the other leaders in my own department was adversely affected by the COVID-19 situation	57	18	15.56	14	17.71	25	0.75
24	I experienced support from my leader colleagues in the rest of the organization	57	16	17.13	17	16.88	24	0.90
25	I was supported by the staff of my department / unit with the decisions I made	57	13	14.85	16	15.13	28	0.57
26	The staff supported the decisions of the hospital management	57	12	15.29	19	16.45	26	0.18
27	I feel well prepared if a similar situation arise again	57	17	15.91	14	16.11	26	0.62

Negative ranks (number of participants who scored lower in the second, than in the first questionnaire), positive ranks (number of participants who scored higher in the second, than in the first questionnaire), and ties (number of participants who scores the same in both questionnaires). Low scores represent "Always to Often" and high scores represent "Seldom to Never/Almost Never".

^aThe possibility to answer "not relevant in question 12 – 15 inflects on the N (and thereby the n's) as these answers are excluded to insure equality.

* = P-values are considered significant when ≤ 0.05