



## Healthcare workers' perceptions of their managers' leadership behaviour and emotional intelligence: a quantitative study in an Estonian hospital

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**Abstract.** Transformational and transactional leadership behaviours of healthcare managers have a positive impact on employee job satisfaction and commitment, ultimately improving patient care quality. The most efficient way to develop leadership behaviour in managers is to teach emotional intelligence skills simultaneously. Training programmes are more effective when preceded by a competency assessment.

The aim of the research was to determine the relationship between employees' perceptions of the transformational and transactional leadership behaviours and emotional intelligence of managers as well as to identify the link between those perceptions and the socio-demographic data of the respondents. A quantitative and cross-sectional study design was used. The sample included 231 healthcare workers. The study used the following instruments: Transformational Leadership Behaviour Inventory, Leader Reward and Punishment Questionnaire, and Genos Emotional Intelligence Inventory. The data were analysed using descriptive and inferential statistics. Emotional intelligence and transformational leadership dimensions were found to have statistically significant positive relationships. Contingent and non-contingent reward behaviours were positively related to emotional intelligence, whereas contingent and non-contingent punishment behaviours were negatively related to emotional intelligence. The study discovered a link between managers' leadership behaviour and the gender, nationality, qualifications, and tenure of the respondents.

To conclude, emotional intelligence skills help healthcare managers develop transformational and transactional leadership behaviours. Managers may need to make an effort to understand employee diversity in order to devise leadership strategies aimed at maximising employee potential. In Estonia, the short version of Genos Emotional Intelligence Inventory is recommended as an alternative for healthcare leadership research.

**Keywords:** healthcare management, emotional intelligence, transformational and transactional leadership behaviour, reward and punishment behaviour.

### INTRODUCTION

Healthcare managers' qualities of leadership (LS) skills and emotional intelligence (EI) have an important role in forming and developing values, beliefs, and behaviours among their employees. Effective healthcare LS correlates positively with employees' job satisfaction, resilience, job involvement, and quality of patient care and safety (Fischer

2016; Lee et al. 2019; Aliem and Hashish 2021). To succeed as a leader and support their employees in caring for patients, it is necessary to have high EI to regulate their own and others' emotions (Lambert 2021). Considering the worldwide problem to recruit healthcare workers, the development of skills that have a positive impact on work-related outcomes acquires a particularly important role for healthcare organisations (World Health Organization 2021).

LS is the process in which the leader influences the followers, explaining and agreeing work related goals and

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the activities to achieve them (Yukl 2013, 2–3). One of the most common LS approaches is transformational/transactional LS theory (Northouse 2019, 263) proposed by Bass (1990), which according to Podsakoff et al. (1984; 1990) consists of ten sets of leaders' behaviours, divided into transformational, transactional, and leaders' reward and punishment behaviours. Transformational leaders express inspirational visions about the future, set positive role models by their behaviour, develop followers' cooperation skills, emphasise high expectations for performance, support followers individually, and stimulate them intellectually (Podsakoff et al. 1990). On the other hand, transactional leaders try to use rewards and promises in order to motivate subordinates and, at the same time, make corrections in the followers' behaviours by negative feedback and disciplinary actions (punishment), doing it either through conditioning (based on the actual work results) or without conditioning (not based on the actual work results) (Podsakoff et al. 1984).

Transformational and transactional LS are considered relevant to healthcare and nursing LS (Lee et al. 2019). Studies of nursing LS concluded that despite the indications of managers practicing several LS styles, each of them tends to use one that is predominant. For example, Al-Yami et al. (2018) found that transformational LS is the most common LS style among nurse managers; at the same time the opposite results were reported by Morsiani et al. (2017). They argued that transactional LS style, especially condition-based punishment, is common among nurse managers. Both styles might be effective under certain conditions; however, transformational LS tends to produce better results in the long term because it inspires innovation (Lee et al. 2019).

EI has been defined as the ability to process information about one's own and other people's emotions (Salovey et al. 2009). The individual prone to high EI has a set of skills to manage his/her emotions, to adequately perceive others' emotions, and understand their causes (Mayer et al. 2004). One of the most important and recognisable components of EI is empathy, which involves self-management and understanding emotional cues of self and others, promoting in the LS context an empathetic attitude towards employees (Pandey and Rathore 2015). EI competence helps managers to develop and maintain good relations with work colleagues as well as motivate and encourage them to perform their duties (Lambert 2021). Because healthcare is mostly delivered in a team setting, EI skills are important tools for managers, enabling groups to promote interests that serve the team (Fernandez et al. 2012). Fernandez et al. (2012) divided EI skills into personal (e.g., self-actualization, flexibility) and social competence (e.g., social awareness, interpersonal relationships), and recommended using those skills in balance, avoiding *over-use* as well as *under-use*, as both can be

equally problematic to the individual and the organisation.

Several previous studies have reported positive relations between managers' EI and their transformational LS behaviour (Frixou et al. 2019). This finding has been supported by Pandey and Rathore (2015), who indicated that transformational leaders use EI skills (e.g., empathy, building bonds, adaptability) to influence the emotional state of their employees, thereby promoting their self-development and adaptation to new ideas and perspectives. However, EI relations with transactional LS have been somewhat controversial due to the fact that the components of transactional LS include behaviours that affect employees positively or negatively (Harms and Credé 2010). According to Podsakoff et al. (1984; 2010) and Simon et al. (2022), the leaders using reward and punishment behaviour need to recognise and regulate their emotions in order to, for instance, cope with employees' negative reactions. This aspect – relations between EI and leaders' reward and punishment behaviour – is not well reported in the literature.

Depending on the context and situation, managers might need different skills of EI and transformational/transactional LS, choosing the most effective behaviour in each scenario (Fernandez et al. 2012; Morsiani et al. 2017). Effective managers tend to develop a combination of various LS styles and EI skills (Hulooka et al. 2021). The development of managers' LS and EI skills is more effective if it is based on their colleagues' feedback and assessment, which is grounded on the manifestations of those skills in managers' everyday behaviour (Palmer et al. 2009).

Thus, taking into account the discussion above, it is important to pay attention to the development of EI together with the different LS styles among healthcare managers. Therefore, the aim of the research was to find out the relationships between perceptions of the managers' transformational and transactional LS behaviour and EI by the employees, and to identify the link between perceptions of those constructs and socio-demographic variables by the respondents using the example of the healthcare workers at one hospital. Identifying the prevailing tendencies of LS behaviour will help healthcare organisations develop strategies to improve LS and EI skills of managers and thereby increase the quality of patient care.

## METHODS

### Data collection and setting

A quantitative, descriptive, and cross-sectional study design was used. Data were collected via a web-based questionnaire

in January 2020. The questionnaire was in Estonian and expected to take approximately 15–20 minutes to complete. A total of 1654 electronic questionnaires were sent to healthcare workers, all of whom were members of seven clinics of an Estonian medical centre, serving the population of over 700 000 inhabitants. A total of 231 returns were made; among them five were analysable within one construct (LS behaviour) and were kept included in the database.

### Description of study sample

The study sample comprised healthcare workers including nurses, assistant practitioners (3rd and 4th year nursing students, working under the supervision of nurses), biomedical scientists, and radiology technicians. They all feature special education needed to provide healthcare services and work under the chief nurse of the clinics. Their immediate supervisors are nurse managers, nursing care and biomedical coordinators, senior biomedical scientists, and senior radiology technicians. Altogether, the study sample consisted of 231 healthcare workers (15.3% of population,  $N = 1508$ ). The response rate was between 5.9% and 17.6% per clinic. According to power analysis, the sample size needed to investigate the relationship between variables using correlation analysis was 211, with alpha 0.05, beta 0.10, and a correlation coefficient value of 0.20 (critical value 0.11). Additionally, for confirmatory factor analysis, Kline (2016, 16) proposed that the sample size around 200 is common. As a summary, and taking into account the rationale above, we concluded that this sample size was sufficient for conducting the analyses and reaching the study objectives.

### Instruments

The questionnaire consists of EI and LS instruments, both using a seven-point response scale ranging from 1 = 'strongly disagree' to 7 = 'strongly agree'. Besides EI and LS, socio-demographic data was collected from the respondents: age, gender, nationality, level of education, current department, total years of experience in the current hospital, in the current position, and under the current manager.

We used Transformational LS Behaviour Inventory (Podsakoff et al. 1990) and Leader Reward and Punishment Questionnaire (Podsakoff et al. 1984), altogether with ten subscales and 48 items. Transformational LS was measured through the following subscales: articulating a vision, providing an appropriate model, fostering the acceptance of group goals, high performance expectations, individualised support, and intellectual stimulation.

Transactional LS included contingent reward behaviour, contingent punishment behaviour, non-contingent reward behaviour, and non-contingent punishment behaviour. Both scales were adopted into the Estonian context by Kasemaa et al. (2016). This study reported sufficient reliability of all ten subscales ( $\alpha = 0.73\text{--}0.94$ ).

We used the Genos EI Inventory short version (14 items) (Palmer et al. 2009) to collect data about managers' EI behaviour. This is a shorter version of the Genos EI questionnaire (70 items) with dimensions of emotional self-awareness, emotional expression, emotional awareness of others, emotional reasoning, emotional self-management, emotional management of others, and emotional self-control. The short version correlates well with the 70-item full version ( $r = 0.94$ ) (Palmer et al. 2009) as it was designed to measure EI as a total score. This version of the questionnaire reflects all full inventory's seven dimensions by two items each and was translated in the course of this study from English to Estonian using the back-translation method. Based on the results of the pilot survey ( $n = 36$ ), the 5-point Likert scale was modified to a 7-point scale to increase the variability of the response options. Multivariate statistical methods indicated that changing the scale format from 5 points to 7 points would not destroy the comparability of historical data (Dawes 2008).

As a preliminary analysis, we conducted confirmatory factor analysis (CFA) to assess the structural validity of the EI scale. Since the original instrument consists of one subscale (Palmer et al. 2009), we expected all items (14) to load to a single EI latent factor (Xia and Yang 2019). We deleted one item due to the low loading to the general EI factor. The final model (13 items) generally demonstrated the sufficient level of fit to the data, including the reliability indicators such as Cronbach's alpha ( $\alpha$ ) and McDonald's omega ( $\omega$ ), and the average squared item loadings ( $r^2$ ). However, we considered the EI instrument to have sufficient psychometric properties to be used as a research instrument in healthcare organisations.

### Data analysis

CFA (method: maximum likelihood) was used to assess the structural validity of the EI scale. Models were assessed by several fit indices (Hu and Bentler 1999; Kline 2016, 269): Root Mean Square Error of Approximation (RMSEA), cut-off value  $< 0.06$ ; Tucker–Lewis Index (TLI), cut-off value  $> 0.90$ ; Comparative Fit Index (CFI), cut-off value  $> 0.95$ ; Standardised Root Mean Square Residual (SRMR), cut-off value  $< 0.08$ . Spearman's correlation analysis was performed to examine the re-

relationship between variables. Mann–Whitney U test and Kruskal–Wallis H test (with Games–Howell Post Hoc test, which is appropriate for unequal group sizes) were calculated to find significant differences between groups of participants (gender, nationality, qualification, level of education). The significance level of 0.05 was used throughout the study. The reliability of the scales was assessed by Cronbach’s  $\alpha$  and McDonald’s  $\omega$ , using  $>0.70$  as the cut-off value. The data were analysed in JASP 0.16.2.0.

### Ethical consideration

Healthcare workers were invited to participate in this study on a voluntary basis. A cover letter and web link of the questionnaire were sent to their official emails. The purposes of the study as well as the issues of confidentiality and anonymity were explained. In this study, the authors did not collect data that would allow direct identification of the participants. If the participants had any questions, they could contact researchers by email. After completion of the study, the data were deleted from the data collection website. According to the Estonian Data Protection Act, this research did not require ethical approval. The study had permission from the hospital management (non-disclosure agreement No. 1.2-20/1187-1, signed on 16 December, 2019). The instruments used for data collection were free to use for research purposes without a specific permission from the authors.

## RESULTS

### Confirmatory factor analysis of Genos EI Inventory short version

Since the EI questionnaire was translated into Estonian in the course of this study, we firstly used CFA to assess the structural validity of it. The CFA fit indices of the model (all 14 items into EI factor) were:  $\chi^2(77) = 251.76$ ;  $p < 0.001$ ; TLI = 0.91; CFI = 0.93; RMSEA = 0.10; SRMR = 0.05. The squared item loadings revealed that one item (item 13:  $r^2 = 0.14$ ) did not reach the cut-off criteria ( $r^2 > 0.25$ ) and was excluded from subsequent analyses. This improved the average squared item loadings into the latent variable from 0.57 to 0.60.

The CFA results for the final model (13 items) were as follows:  $\chi^2(65) = 230.49$ ;  $p < 0.001$ ; TLI = 0.91; CFI = 0.93; RMSEA = 0.11 and SRMR = 0.05. As in the previous model, all fit indices remained within generally acceptable limits except RMSEA and CFI, which were slightly under the selected cut-off value (Hu and Bentler, 1999). Nevertheless, the general conclusion is that the EI instrument demonstrated a sufficient level of structural validity to be used for research purposes.

### Descriptive statistics

The demographic characteristics of the healthcare workers are described in Table 1. Most of the participants were

**Table 1.** Participants’ socio-demographic characteristics

Variable	Category	<i>n</i> (%)
Gender	Female	218 (94.4%)
	Male	13 (5.6%)
Nationality	Estonian	161 (69.7%)
	Russian	65 (28.1%)
	Other	5 (2.2%)
Highest level of education	High school	15 (6.5%)
	Diploma in nursing	22 (9.5%)
	Bachelor’s degree	175 (75.8%)
	Master’s degree	19 (8.2%)
Qualifications	Nurse	187 (81%)
	Biomedical scientist	18 (7.8%)
	Assistant practitioner	17 (7.3%)
	Radiology technician	9 (3.9%)
	Min–max	Mean $\pm$ <i>SD</i>
Age (years)	21–70	40.41 $\pm$ 11.75
Experience in current hospital (years)	0.1–50	11.20 $\pm$ 9.25
Experience in current position (years)	0.2–50	10.09 $\pm$ 9.70
Experience under current manager (years)	0.1–30	6.24 $\pm$ 5.64

*n* – number of participants; min – minimum; max – maximum; *SD* – standard deviation

female ( $n = 218$ ; 94.4%), Estonian ( $n = 161$ ; 69.7%), with a bachelor's degree ( $n = 175$ ; 75.8%) and nursing qualification ( $n = 187$ ; 81%). The ages of participants ranged from 21 to 70 ( $M = 40.41$ ,  $SD = 11.75$ ). The years of experience in the current position ranged from 0.2 to 50, with a mean of 10.09 ( $SD = 9.70$ ).

The means, standard deviations, Cronbach's alphas, and McDonald's omegas are presented in Appendix 1. Reliability of the scales was at an acceptable level. Overall, the employees perceived their managers to have a moderate level of transformational LS behaviour components ( $M = 4.41$ – $5.00$ ,  $SD = 1.03$ – $1.55$ ), contingent reward behaviour ( $M = 4.32$ ,  $SD = 1.31$ ), contingent punishment behaviour ( $M = 4.72$ ,  $SD = 0.91$ ), and EI ( $M = 4.75$ ,  $SD = 1.28$ ) on a seven-point Likert scale. They reported a low level of non-contingent reward ( $M = 3.19$ ,  $SD = 1.13$ ) and non-contingent punishment behaviours ( $M = 2.62$ ,  $SD = 1.31$ ).

**Relationship between LS behaviour and EI assessments**

The first research task was to analyse the relations between LS behaviour subscales and EI (Table 2). EI was positively correlated with the majority of transformational LS components ( $\rho = 0.71$ – $0.85$ ). Only 'high performance expectations' was not correlated with EI. Additionally, EI was positively correlated with the managers' contingent and non-contingent reward behaviour ( $\rho = 0.65$  and

$\rho = 0.34$ ). At the same time, EI was negatively correlated with contingent and non-contingent punishment behaviours ( $\rho = -0.21$  and  $\rho = -0.65$ ). Transformational LS behaviour component 'high performance expectations' was the only component which did not have strong positive correlations with the other subscale components. On the contrary, 'high performance expectations' correlated positively with contingent punishment behaviour.

**Relationship between participants' socio-demographic characteristics and LS behaviour and EI assessments**

Secondly, we compared the differences between participants' characteristics and managers' LS behaviour and EI assessments (Table 3). According to the Mann–Whitney U test, women's assessments ( $M = 2.67$ ) of their managers' non-contingent punishment behaviour were significantly ( $p = 0.04$ ) higher than the assessments given by men ( $M = 1.92$ ). Non-Estonians ( $M = 3.60$ ) assessed their managers' non-contingent reward behaviour significantly ( $p < 0.001$ ) higher than Estonians ( $M = 3.01$ ).

We conducted the Kruskal–Wallis H test and Games–Howell Post Hoc test to compare assessments by qualifications and education. Non-contingent punishment behaviour ( $H(3) = 10.50$ ,  $p = 0.015$ ) was assessed by nurses ( $M = 2.70$ ) and assistant practitioners ( $M = 2.97$ ) significantly higher than by biomedical scientists ( $M = 1.94$ ) and radiology technicians ( $M = 1.77$ ). However, individ-

**Table 2.** Correlation (Spearman's  $\rho$ ) between LS behaviour subscales and EI scores

	VIS	PAM	FAG	HPE	ISP	IST	CRB	CPB	NCRB	NCPB
PAM	0.82*									
FAG	0.85*	0.80*								
HPE	0.24*	0.08	0.22*							
ISP	0.64*	0.73*	0.64*	0.02						
IST	0.81*	0.77*	0.78*	0.20*	0.62*					
CRB	0.72*	0.70*	0.72*	0.14*	0.65*	0.71*				
CPB	0.01	-0.11	0.01	0.42*	-0.14*	-0.04	-0.08			
NCRB	0.43*	0.37*	0.38*	0.01	0.25*	0.48*	0.48*	-0.26*		
NCPB	-0.43*	-0.58*	-0.44*	0.16*	-0.63*	-0.37*	-0.39*	0.28*	-0.05	
EI	0.73*	0.85*	0.72*	-0.04	0.76*	0.71*	0.65*	-0.21*	0.34*	-0.65*

VIS – articulating a vision; PAM – providing an appropriate model; FAG – fostering the acceptance of group goals; HPE – high performance expectations; ISP – individualised support; IST – intellectual stimulation; CRB – contingent reward behaviour; CPB – contingent punishment behaviour; NCRB – non-contingent reward behaviour; NCPB – non-contingent punishment behaviour; EI – emotional intelligence; \* – significance level  $< 0.05$



**Table 3.** Assessments' mean value differences between gender, nationality, qualification, and level of education

	VIS	PAM	FAG	HPE	ISP	IST	CRB	CPB	NCRB	NCPB	EI
Women ( <i>n</i> = 218)	4.48	4.69	4.62	4.87	4.97	4.40	4.30	4.72	3.18	2.67	4.73
Men ( <i>n</i> = 13)	4.49	5.05	5.04	4.42	5.51	4.62	4.76	4.68	3.46	1.92	5.19
Mann–Whitney U test	1548.00	1240.00	1260.50	1816.00	1003.00	1339.00	1168.00	1452.00	1209.50	1879.50	1083.00
<i>p</i>	<b>0.57</b>	<b>0.45</b>	<b>0.50</b>	<b>0.08</b>	<b>0.07</b>	<b>0.74</b>	<b>0.28</b>	<b>0.88</b>	<b>0.37</b>	<b>0.04</b>	<b>0.18</b>
Estonians ( <i>n</i> = 161)	4.42	4.71	4.65	4.89	5.02	4.40	4.26	4.75	3.01	2.54	4.73
Non-Estonians ( <i>n</i> = 67)	4.60	4.71	4.61	4.73	4.95	4.43	4.47	4.65	3.60	2.81	4.81
Mann–Whitney U test	5071.50	5658.50	5764.00	6083.50	6031.50	5493.50	5089.50	5960.50	3997.50	4840.50	5454.50
<i>p</i>	<b>0.22</b>	<b>0.96</b>	<b>0.78</b>	<b>0.33</b>	<b>0.39</b>	<b>0.76</b>	<b>0.24</b>	<b>0.48</b>	<b>&lt;0.001</b>	<b>0.08</b>	<b>0.99</b>
Nurses ( <i>n</i> = 187)	4.45	4.61	4.57	4.82	4.93	4.37	4.31	4.76	3.18	2.70	4.68
Assistant practitioners ( <i>n</i> = 17)	4.42	4.59	4.47	4.88	4.80	4.56	4.30	4.62	3.40	2.97	4.60
Biomedical scientists ( <i>n</i> = 18)	4.62	5.51	5.07	4.88	5.55	4.47	4.54	4.56	3.34	1.94	5.39
Radiology technicians ( <i>n</i> = 9)	4.76	5.11	5.33	4.83	5.73	4.81	4.19	4.67	2.92	1.78	5.24
Kruskal–Wallis H test	0.19	5.22	2.74	0.07	9.08	1.42	0.17	0.52	0.91	10.50	5.10
<i>p</i>	<b>0.97</b>	<b>0.15</b>	<b>0.43</b>	<b>0.99</b>	<b>0.02</b>	<b>0.70</b>	<b>0.98</b>	<b>0.91</b>	<b>0.82</b>	<b>0.01</b>	<b>0.16</b>
High school ( <i>n</i> = 15)	4.32	4.60	4.50	4.72	4.79	4.45	4.20	4.69	3.37	2.93	4.57
Diploma in nursing ( <i>n</i> = 22)	4.66	4.77	4.94	4.77	4.82	4.53	4.35	4.82	3.45	2.76	4.80
Bachelor's degree ( <i>n</i> = 175)	4.52	4.76	4.65	4.91	5.05	4.44	4.40	4.71	3.21	2.59	4.79
Master's degree ( <i>n</i> = 19)	4.03	4.28	4.26	4.39	4.98	4.00	3.76	4.75	2.62	2.55	4.52
Kruskal–Wallis H test	2.98	1.01	1.92	5.16	1.97	1.50	4.09	1.00	6.64	2.71	1.88
<i>p</i>	<b>0.39</b>	<b>0.79</b>	<b>0.58</b>	<b>0.16</b>	<b>0.57</b>	<b>0.68</b>	<b>0.25</b>	<b>0.80</b>	<b>0.08</b>	<b>0.43</b>	<b>0.59</b>

VIS – articulating a vision; PAM – providing an appropriate model; FAG – fostering the acceptance of group goals; HPE – high performance expectations; ISP – individualised support; IST – intellectual stimulation; CRB – contingent reward behaviour; CPB – contingent punishment behaviour; NCRB – non-contingent reward behaviour; NCPB – non-contingent punishment behaviour; EI – emotional intelligence; *p* – significance level < 0.05

ualised support ( $H(3) = 9.08$ ,  $p = 0.02$ ) was assessed by nurses ( $M = 4.93$ ) significantly lower than by biomedical scientists ( $M = 5.55$ ) and radiology technicians ( $M = 5.73$ ). No statistically significant difference was found between participants' education level and the LS behaviour and EI scores ( $p > 0.05$ ).

Correlation analysis was performed to examine employees' LS and EI assessment relationships to their tenure

and age (Table 4). The perceptions of contingent punishment behaviour had a statistically significant low positive relationship with experience under the current manager ( $\rho = 0.13$ ,  $p < 0.05$ ) and with their current position ( $\rho = 0.16$ ,  $p < 0.05$ ). The other LS components and EI had no statistically significant relationships with employees' tenure and age ( $p > 0.05$ ).

**Table 4.** Participants' tenure and age correlations (Spearman's  $\rho$ ) between LS behaviour subscales and EI scores

	VIS	PAM	FAG	HPE	ISP	IST	CRB	CPB	NCRB	NCPB	EI
Experience under current manager (years)	0.09	-0.02	0.09	0.03	0.01	0.08	0.06	0.13*	0.07	0.12	0.09
Experience in current position (years)	0.09	-0.01	0.12	0.12	0.02	0.07	0.01	0.16*	-0.01	0.12	0.02
Experience in current hospital (years)	0.08	0.01	0.09	0.02	0.05	0.06	0.06	0.04	-0.06	0.04	0.01
Age (years)	0.03	-0.02	0.05	-0.06	-0.01	-0.01	-0.01	-0.01	-0.07	0.05	0.01

VIS – articulating a vision; PAM – providing an appropriate model; FAG – fostering the acceptance of group goals; HPE – high performance expectations; ISP – individualised support; IST – intellectual stimulation; CRB – contingent reward behaviour; CPB – contingent punishment behaviour; NCRB – non-contingent reward behaviour; NCPB – non-contingent punishment behaviour; EI – emotional intelligence; \* – significance level  $<0.05$

## DISCUSSION

As a preliminary analysis, we conducted CFA to assess the structural validity of the EI scale and concluded that the EI instrument has sufficient psychometric properties to be used as a research instrument in healthcare organisations.

Firstly, we analysed the relationships between EI and LS ratings. The results revealed that those subordinates who perceived managers as having a high level of EI, at the same time perceived their LS behaviour as more transformational. In general, these results are consistent with previous studies (Frixou et al. 2019), supporting the view that managers' EI competence is a necessary component for their transformational LS behaviour. Transformational leaders can manifest their EI through managing interpersonal relationships, such as articulating a compelling vision, motivating others, cultivating a positive work environment, and building teamwork (Pandey and Rathore 2015). Fernandez et al. (2012) recommended fostering healthcare leaders' relationship management skills by team building exercises and mentoring sessions.

However, we identified some exceptions to this general tendency. To begin, employees did not perceive managers' EI and high-performance expectations as being related, which may indicate that EI is not part of the behaviour that emphasises high performance. Additionally, this LS component was weakly correlated with the other transformational LS components, also reported in the Estonian context by Kasemaa et al. (2016). It means the respondents perceived higher performance expectations rather as being part of transactional than transformational LS behaviour. On the other hand, high-performance expectations were the highest related to contingent punishment behaviour. Thus, the more managers use punishment as a

tool, the more performance-demanding they are perceived to be. As it is reported in the literature (Hulooka et al. 2021), when managers mainly focus on punishments in order to express high expectations for performance, employees' creativity and innovativeness would decrease.

Analysing relations between EI and managers' reward and punishment behaviours, we found positive correlations between EI and reward behaviours, and negative correlations between EI and punishment behaviours. According to Fernandez et al. (2012), the *over-use* of EI skills can cause multiple problems on an individual and organisational level. For example, a manager with high empathy and social awareness may experience difficulties in making tough decisions and establishing his/her opinion. We may assume that managers with higher EI level use less contingent punishment behaviour to avoid the associated disturbance of the general sense of well-being. This conclusion is supported by Simon et al. (2022), who found that managers with a higher level of empathy give less negative feedback, using praise or ignoring instead. As stated in Podsakoff et al. (1984; 2010), managers using punishment behaviour need to recognise and regulate their emotions to cope with employees' negative reactions.

As expected, non-contingent punishment was negatively related to EI. To be effective and contribute to the long-term organisational goals, managers should use non-contingent punishment behaviour as little as possible because it has a strong negative impact on individual and group-level performance (Podsakoff et al. 2010). We could state, in line with Podsakoff et al. (2010), that one reason why managers use non-contingent punishment behaviour might be because they cannot regulate their emotions. As reported by Fernandez et al. (2012), managers with low impulse control (e.g., emotional tempers and

angry outbursts) can be supported by mentoring and simulations, while providing contextualised feedback allows them to see the effects of their behaviours.

Secondly, we compared the differences between participants' socio-demographic characteristics and managers' LS behaviour and EI assessments. Men's assessments of their managers' non-contingent punishment behaviour were lower than the assessments given by women. Noting the fact that most immediate supervisors were women, this result parallels Nazir and Suhail (2007), who assumed that male employees may have been more lenient while rating their women managers.

Non-Estonians assessed their managers' non-contingent reward behaviour higher than Estonians. We assumed two possible explanations for that. Firstly, managers may treat non-Estonian healthcare workers more leniently than Estonians or, secondly, non-Estonian healthcare workers could perceive their managers' LS as more comforting. While claiming so, it should be taken into account that 'leniently' here means rewarding without presenting conditions for the performance. According to Al-Yami et al. (2018), cultural aspects may affect managers' LS behaviour, which could be a wider background for this result. Nevertheless, because healthcare teams are becoming increasingly multicultural due to international migration (World Health Organization 2021), it is worth studying this further.

Our study revealed no significant differences between employees' level of education and managers' LS behaviour and EI assessments. The vast majority of respondents had a bachelor's degree; therefore the variability may not have manifested. However, comparing the assessments by the participants' qualifications revealed that nurses and assistant practitioners perceived non-contingent punishment behaviour more strongly than biomedical scientists and radiology technicians. On the other hand, nurses perceived less individual support. One possible explanation could be that nurses and assistant practitioners (their work tasks are similar) are in closer contact with patients, so they are more susceptible to stress and experience more demanding situations due to patients' needs, uncertain outcomes, and a high-demand work environment. As also noticed by Aliem and Hashish (2021), meeting the above challenges, managers can increase nurses' resilience through transformational LS, delivered in a participative and respectful manner. At the same time, fostering managers' stress management techniques by individual coaching and 360° feedback, can help build their resilience in highly demanding situations (Fernandez et al. 2012).

The results of the correlation analysis showed that the longer the employees had worked under their manager and in their current position, the higher the assessments they gave to the contingent punishment behaviour of the

manager. At the same time, no correlation was found with experience in the current hospital and with the age. Regarding contingent punishment behaviour, this result contrasts with the finding of Al-Yami et al. (2018). We may assume that the more senior the employees are, the more knowledge and skills they have, but due to the fast pace of the work environment, unintentional mistakes can happen. Pointing out mistakes by a manager can hurt a senior employee's self-esteem. However, in the case of experienced employees, it could be recommended to use primarily transformational LS behaviour such as individualised support and intellectual stimulation, which, among other positive outcomes, may increase their work satisfaction (Morsiani et al. 2017).

This study has limitations, especially related to its sample and instrumentation. Firstly, the generalisability of our results is limited because all the participants came from the same organisation and the response rate was low. Thus, this study needs to be replicated with a diverse sample of healthcare workers to consolidate the study findings. Secondly, this survey was conducted in a large medical centre, where there are many departments that differ in the workspace, staff training, complexity and standardisation of tasks, which may influence employees' perceptions. Additionally, to measure managers' EI, we used Genos EI Inventory short version, which allows only for the calculation of a total EI score. Further research with Genos Total EI Long or Concise versions is needed to find out LS components' correlations with all seven EI dimensions. Finally, due to the anonymity of the respondents and their managers, we could not link a concrete manager's data with the data provided by employees working under his/her supervision. We recommend taking these limitations into account within the future LS and EI research in Estonian healthcare organisations.

## CONCLUSIONS

Healthcare managers should contribute to the development of their LS competence to empower their employees and to ensure high-quality healthcare for patients. An important aspect for managers in this learning process is to acquire a variety of EI skills by practicing these through simulation, role-playing, mentoring, and 360° feedback. Such EI skills as social awareness and empathy enable managers to create trusting relationships with employees, offer them support in difficult situations, and share responsibilities in decision-making, which increases employees' autonomy, improves teamwork, and reduces the intention to leave. Therefore, we set the aim for the study to find the relationships between the LS behaviour and EI of healthcare managers assessed by their em-



ployees, also considering the socio-demographic background of the employees.

The results of our study supported the conclusions of previous studies that EI is one of the main transformational LS and contingent reward behaviour predictors. The similarity in assessments by socio-demographic groups showed that managers apply these broad-based positive affect behaviours equally to all employees. The evaluation of punishment behaviour and non-contingent reward behaviour showed differences between groups, the likely cause of which lies in the complicated process of giving and receiving negative feedback. Giving negative feedback constructively and appropriately requires good emotion regulation skills from both low-EI managers, so that they do not act too harshly and recklessly, and high-EI managers, so that they would not ignore mistakes due to excessive sympathy for employees.

The Genos EI model is defined in seven key areas of EI, which are all recommended for becoming a more effective manager. Despite some limitations, we recommend the Genos EI Inventory short version as a possible alternative for healthcare LS research in Estonia. Taking into account the results that the respondents did not have differences in EI assessments, we may conclude that the instrument as such is rather universal, meaning that the respondents' socio-demographic characteristics could not influence the perception they had of the healthcare managers.

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#### APPENDIX

Descriptive statistics of leadership behaviour and emotional intelligence inventories' scores

	<i>n</i>	<i>min</i>	<i>max</i>	<i>M</i>	<i>SD</i>	$\alpha$	$\omega$
Articulating a vision	231	1.00	7.00	4.47	1.30	0.91	0.91
Providing an appropriate model	231	1.00	7.00	4.71	1.55	0.83	0.83
Fostering the acceptance of group goals	231	1.00	7.00	4.63	1.45	0.90	0.90
High performance expectations	231	1.00	7.00	4.84	1.03	0.74	0.75
Individualised support	231	1.20	7.00	5.00	1.21	0.82	0.87
Intellectual stimulation	231	1.00	7.00	4.41	1.29	0.85	0.86
Contingent reward behaviour	231	1.00	7.00	4.32	1.31	0.94	0.94
Contingent punishment behaviour	231	2.20	7.00	4.72	0.91	0.70	0.71
Non-contingent reward behaviour	231	1.00	6.50	3.19	1.13	0.73	0.72
Non-contingent punishment behaviour	231	1.00	7.00	2.62	1.31	0.85	0.85
Emotional intelligence	226	1.07	7.00	4.75	1.28	0.94	0.94

*n* – number of cases; *min* – minimum; *max* – maximum; *M* – arithmetic mean; *SD* – standard deviation;  $\alpha$  – Cronbach's  $\alpha$ ;  $\omega$  – McDonald's  $\omega$

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## **Tervishoiutöötajate hinnangud oma juhi eestvedamiskäitumisele ja emotsionaalsele intelligentsusele: kvantitatiivne uuring ühes Eesti haiglas**

Ene Vadi ja Antek Kasemaa

Tervishoiujuhtide perspektiivne ja pragmaatiline eestvedamiskäitumine mõjuvad positiivselt töötajate töörahulolule ja tööle pühendumisele, mistõttu paraneb ka patsientide ravikvaliteet. Tõhusaim viis arendada juhtide eestvedamiskäitumist on õpetada samaaegselt emotsionaalse intelligentsuse oskusi: emotsioonide reguleerimist, juhtimist ja nende sobilikku väljendamist. Koolitused on tulemuslikumad, kui neile eelneb juhtide pädevuse hindamine.

Uuringu eesmärk oli välja selgitada ühe haigla tervishoiujuhtide eestvedamiskäitumise ja emotsionaalse intelligentsuse omavahelised seosed lähtudes alluvate hinnangutest. Valimisse kuulus 231 tervishoiutöötajat. Andmeid koguti veebipõhise küsimustiku abil ning analüüsimisel kasutati kirjeldava ja järeldava statistika meetodeid. Töötajate hinnangul oli emotsionaalse intelligentsuse ja enamiku perspektiivse eestvedamise komponentide vahel positiivne korrelatsioon. Pragmaatilise eestvedamise komponendid tingimuslik ja tingimusteta tasustamine olid positiivselt seotud emotsionaalse intelligentsusega, aga tingimuslik ja tingimusteta karistamine negatiivselt. Lisaks ilmnes, et pragmaatilise eestvedamiskäitumise hinnangud erinesid lähtuvalt vastajate soost, rahvusest, kvalifikatsioonist ja staažist.

Kokkuvõtteks leiti, et emotsionaalse intelligentsuse oskused aitavad tervishoiujuhtidel arendada nii perspektiivse kui ka pragmaatilise eestvedamiskäitumise oskusi, mistõttu on organisatsioonis vaja pakkuda asjakohaseid koolitusi. Uuringu tulemuste alusel tuleks juhtide tähelepanu pöörata konstruktiivse tagasiside andmise strateegiatele, võimaldamaks neil töötajaid individuaalselt võimendada. Juhtide emotsionaalse intelligentsuse edasisel hindamisel ja arendamisel saab kasutada selle uuringu käigus eesti keelde kohandatud küsimustikku.