The connection between leader behaviour and employee sickness absence in public administration

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Abstract
Purpose – The purpose of this study is to find the connection between leader behaviour and employee sickness absence in public administration.

Design/methodology/approach – The research data was collected with the help of an online questionnaire. The SPSS statistical programme and structural equation modelling in AMOS were used to analyse the data.

Findings – The research was conducted in public administration institutions, and 3,220 employees from public administration were included in the research sample. The author found a negative one-way relationship between certain types of behaviour and sickness absence. The author defines leader behaviour as a multidimensional construct in which each dimension represents a separate cluster of leader behavioural characteristics. Leaders’ “progressiveness” is the most important dimension, and a one-point increase in “progressiveness” (five-point scale) leads to a reduction of 2.8 days in sickness absence for one employee.

Research limitations/implications – The author focused only on one segment of factors (the behaviour of leaders) that affects sickness absence. To explain the maximum possible measure of the variability in sickness absence, it would be best to include several different influencing factors.

Practical implications – The study represents a structured model of the link between sickness absence and leader behaviour. With the model, it is possible to determine which behavioural forms of leaders influence sickness absence, where leader behaviour is treated as a complex whole, and not as an individual behavioural characteristic.

Originality/value – The study addresses calls for research on the relationship between leader behaviour and employee sickness absence within countries.

Keywords Public administration, Sickness absence, Leadership, Leader, Leader behaviour

Introduction
The workplace is a place where various relationships are established. Although it is in the interest of organisations to achieve diverse organisational goals, it is by no means sensible to ignore the importance of internal relationships among individuals in the organisation. The leader is among those who play an important role in creating (non-)functional relationships in the workplace; he or she presents a distinctive personality in the workplace, which manifests according to a certain type of behaviour. Employees emotionally perceive the leader’s behaviour, and such behaviour should therefore be helpful and not harmful to
them. The inevitable interactions and (co-)influencing that occur in the workplace may positively or negatively affect employees, the results of which may be perceived through the lens of sickness absence. Bernstrom and Kjekshus (2012) define sickness absence as all absence owing to ill health. Buzeti (2020) defines sickness absence as all those cases where employees are absent from work because of personal illness or injury or to care for family members, and their absence is treated as temporary from a temporal point of view.

Sickness absence is somewhat higher in public organisations than in private organisations (Løkke and Krøtel, 2020; Nacionalni inštitut za javno zdravje – NIJZ, 2020; Hansen et al., 2018; Gross et al., 2018; Løkke, 2014; Coffey et al., 2009). There may be several reasons for these sector differences, some related to the employee and others to the employer. First of all, the public sector may attract individuals that are more absent because the public sector is characterised by higher job security and general protection and promotion of the well-being of individuals. Another reason might be that the private sector is more likely to dismiss individuals with a high level of absenteeism because of a larger focus on performance and profit (Hansen et al., 2018). On the basis of statistical data from the National Institute for Public Health (NIJZ) in Slovenia, the duration of an individual case of sickness absence in the private sector is longer than in the public sector; nevertheless, individual employees in the public sector take sick leave more often in a year, which consequently leads to more days of sick leave per employee (Nacionalni inštitut za javno zdravje – NIJZ, 2020). The CIPD study (Chartered Institute of Personnèl and Development – CIPD, 2020) shows very interesting results that line managers in the public sector are more likely to have a prominent role in managing sickness absence compared with those in the private sector: four-fifths of the public sector (81%) report that line managers have primary responsibility for short- and/or long-term absence, compared with just over half of the private sector (55%) and three-fifths of non-profits (61%). Sickness absenteeism is not only costly for public and private organisations, but also for society and individuals (Nielsen and Daniels, 2016).

Based on NIJZ data (Nacionalni inštitut za javno zdravje – NIJZ, 2014–2020), we found that the greatest percentage of lost calendar days in public administration because of sickness absence in the compared period, was recorded in 2019, i.e. 7.2%, and the lowest percentage in 2014, i.e. 6%. It is interesting, however, that since 2014, the number of lost calendar days has been constantly increasing in public administration in Slovenia.

Numerous studies (Thorsen et al., 2021; Løkke and Krøtel, 2020; Clausen et al., 2020; Sørensen et al., 2020; Stengård et al., 2020; Buys et al., 2019; Nielsen et al., 2019; Harvey et al., 2018; Bernstrøm, 2018; Schmid et al., 2017; Shapira-Lishchinsky and Raftar-Ozery, 2016; Miraglia and Johns, 2016; Nielsen and Daniels, 2016; Halbesleben et al., 2014; Clausen et al., 2014; Hassan et al., 2014; Elshout et al., 2013; Frooman et al., 2012; Bernstrom and Kjekshus, 2012; Figueiredo-Ferraz et al., 2012; Rantanen and Tuominen, 2011; Yuksel and Tuncsiper, 2011; Hoxsey, 2010; Ybema et al., 2010; Hilton et al., 2009; Bryant et al., 2009; Nyberg et al., 2008; Kristensen et al., 2006; Zhu et al., 2005; Bourbonnais et al., 2005) show that the causes of sickness absence are linked to work environment-related factors, including working conditions, co-workers, leadership, bullying, organisational culture and climate, job satisfaction, etc.

Work environment factors (e.g. leader behaviour, stress and organisational climate) affect employees at an “informal level”, and are subsequently reflected by employee sickness absence. Similarly, Harvey et al. (2018) confirm that workplace factors have also been identified that appear to influence rates of sickness absence, and also Clausen et al. (2020) confirm that social relationships in the workplace are important predictors of sickness absence in workplaces. To determine whether the “informal” factors of the work environment would affect employees at an “informal level”, and are subsequently reflected by employee sickness absence.
environment in the form of leader behaviour cause or affect employee sickness absence, we explored the connection between leader behaviour and employee sickness absence, which we present in this paper. The actions of the leader are often reflected in the behaviour of the people he or she leads, and therefore we believe that it would be appropriate for the leader to perceive and improve such behaviour. Leaders are agents of change, and their actions affect other people more than the actions of others affect them (Bass and Bass, 2008). In fact, Nielsen et al. (2019) define that leaders can have a substantial impact on how subordinates experience their job and working conditions, and thereby influence the well-being of the employee. Moreover, leaders’ absence behaviour has a direct impact on subordinates’ absence behaviour, because subordinates tend to imitate their leaders’ absence (Løkke and Krøtel, 2020).

The aim of the paper is to show the connection between leader behaviour and employee sickness absence in public administration. The main objective of this paper is to present findings regarding whether a connection between leader behaviour and employee sickness absence can be established, and what type of behaviour affects the rise/reduction in employee sickness absence, as well as the extent of that effect.

The results of the research on sickness absence and leadership (leader behaviour) are expected to further contribute to the theoretical knowledge that leader behaviour is multidimensional and recognised through various forms or activities, and that certain leader behaviour types affect sickness absence. Moreover, we expect the observation that the more the employees recognise their leader as authentic, genuine, cooperative and moral, the less they are likely to take sick leave is to be generally adopted. We believe our contribution, with the presented results and the drawn up cost-effective JB model, will be used in public administration practice to measure leader behaviour in relation to sickness absence.

The paper is structured as follows: in the first part, the introduction, the literature review and the hypothesis and sub-hypotheses are presented; this is followed by a presentation of the methodology, revealing the procedures, participants and the instrument used to collect data, and the research results on the correlation between leader behaviour and employee sickness absence in public administration in Slovenia, and the interpretation of the content of the research results and discussion. The final part of the paper is a conclusion consisting of implications and limitations.

**Literature review and hypothesis development**

Compared with research focusing on the relation between sickness absence and factors such as work satisfaction and stress, research regarding the connection between leader behaviour (leading) and sickness absence is scarce. Nevertheless, previous research reveals a connection between leadership or leader behaviour and sickness absence in the private sector (Sørensen et al., 2020; Nielsen et al., 2019; Schmid et al., 2017; Hassan et al., 2014; Halbesleben et al., 2014; Elshout et al., 2013; Frooman et al., 2012; Westerlund et al., 2010; Reuver and van Woerkom, 2010; Robertson and Flint-Taylor, 2009; Nyberg et al., 2008; Kuoppala et al., 2008; Robertson and Flint-Taylor, 2009; Zhu et al., 2005; Richardson and Vandenberg, 2005), as well as in the public sector (Løkke and Krøtel, 2020; Sørensen et al., 2020; Stengård et al., 2020; Gottlieb and Gøtzsche-Astrup, 2019; Nielsen et al., 2019; Buys et al., 2019; Shapira-Lishchinsky and Raftar-Ozery, 2016; Nielsen and Daniels, 2016; Hassan et al., 2014; Elshout et al., 2013; Bernstrom and Kjeckshus, 2012; Schreuder et al., 2011; Reuver and van Woerkom, 2010; Mellor et al., 2009; Løkke Nielsen, 2008; Al-Haq, 2008; Kuoppala et al., 2008; Dellve et al., 2007; Abu Sheikha and Younis, 2006; Van Dierendonck et al., 2002). We formulate the hypotheses presented below based on preliminary findings of research on
the link between leadership (leader behaviour and leadership styles) and sickness absence, as well as the lack of research in this field in the public sector.

The leader is the undisputed source of his or her own behaviour, and hence the style of leadership that he or she chooses. Leadership style is one such determinant that is directly within the control of a manager (Frooman et al., 2012), and that, through his or her behaviour (leadership style), can affect employee sickness absence. Nielsen and Daniels (2016) confirm in their research a positive relationship between group-level transformational leadership and sickness absence. Groups with transformational leaders had higher levels of sickness absence in the following year, but not two years later. Gottlieb and Gotzsche-Astrup (2019) confirm that low subordinate sickness absence was related to leader extraversion and conscientiousness. Additionally, Sørensen et al. (2020) show in their study a clear dose response association between lower levels of leadership quality and higher risk of long-term sickness absence (LTSA) among 53,157 employees of the Danish workforce. Low leadership quality predicted a higher risk of LTSA in both men and women, in all age groups, at all educational levels and among employees in the private and public sectors. Kuoppala et al. (2008) confirm that there is a link between leadership and sickness absence. They note that a supportive style of leadership (substantial social contact with employees) positively correlates with employee satisfaction and results in less employee absence from work. In contrast to supportive leadership, autocratic leadership leads to health problems and to sickness absence.

Elschout et al. (2013) find a correlation between sickness rates, satisfaction and leadership style. The main finding of their research is the strong difference in leadership styles in the worst- and best-performing departments, in terms of employee satisfaction and absenteeism. The worst departments have a manager with a clearly identified transactional style, while the best departments are supervised by a manager with a transformational style, which correlates with low sickness rates. Employees who are more satisfied with their supervisor will be more committed to the organisation, and call in sick less frequently (Elschout et al., 2013). The study by Westerlund et al. (2010) shows that less attentive managerial leadership is highly significantly associated with sickness absence, because of overstrain or fatigue among Swedish blue-collar workers and among Finnish blue- and white-collar workers. Schreuder et al. (2011) show that leadership style in connection with employee absence from work represents 10% of the variance of sickness absence. As part of their research, they examine the correlation between styles of leadership, and find that the “commanding” and “delegative” styles are positively related to the number of days of absence and the number of short periods (episodes) of absence. In particular, the style of leadership that is oriented towards employees (people) affects sickness absence, whereas employees are more likely to be less absent from work when the leadership style is oriented towards tasks. Mellor et al. (2009) show that leadership (particularly the “transformational-reward” style) has an effect in reducing the rate of employee sickness absence; however, the effect observed in their survey is meagre. The few studies examining the link between transformational leadership and sickness absence have produced mixed results, with some showing a negative correlation (Richardson and Vandenbarg, 2005; Zhu et al., 2005). Frooman et al. (2012) find that the transformational leadership style reduces “illegitimate” employee sickness absence, while the passive-avoidance leadership style increases “illegitimate” employee absence. The researchers believe that employees are extremely loyal to transformation managers and that they therefore go to work even when they are sick. They also find that there is a negative correlation between the passive-avoiding style of leadership and “legitimate” employee sickness absence. Dellve et al. (2007) prove that leadership styles, like the transformational
style, have a positive influence on the well-being of their subordinates. Therefore, based on the literature, we hypothesise that:

\[ H1. \] There is a connection between direct leadership behaviour and sickness absence in public administration.

Leadership behaviour has a significant impact on employee behaviour, performance and well-being (Inceoglu et al., 2018), and the leader may influence sickness absence and different processes. On the one hand, the leader can increase the ability of employees to attend work by reducing work demands that cause strain and impaired health for employees. On the other hand, the leader can motivate employees to attend work by providing them with work resources, such as social support and feedback (Bernstrom and Kjekshus, 2012). The study results obtained by Bernstrom and Kjekshus (2012) indicate a relationship between several leader behaviours and sickness absence. The results of their study show that line managers’ display of loyalty to their superiors is related to higher sickness absence, while task monitoring is related to fewer absences. Social support is also shown to be associated with higher sickness absence. The research carried out by Nielsen et al. (2019) shows that empowering, but not fair and supportive leader behaviour, was associated with decreased risk of having sickness absence. Neither supportive, fair, nor empowering leader behaviour moderated the association between workplace bullying and sickness absence.

In the study by Stengård et al. (2020), they found that poor perceived leadership of the closest manager was associated with a higher risk of sickness absence over time, and that good managerial leadership buffered the effect of workplace violence on sickness absence. Poorer perceived managerial leadership was thus associated with a higher risk of sickness absence two years later. The reversed path from sickness absence to managerial leadership was not statistically significant. Hassan et al. (2014) show that the ethical behaviour of leaders (ethics of leadership) affects sickness absence. The results of their study show that ethical leadership reduces the number of days that employees are absent from work. The study by Van Dierendonck et al. (2002) on the influence of leader behaviour on sickness absence provides stunning results. These authors find that the most important factor in the relationship between leaders and employees is a “feeling” based on how the leader behaves towards employees. The results show that a strong sense of mutual reciprocity (cooperation) between the leader and the employees correlates with a large number of short-term absences of employees from work. Nyberg et al. (2008) show that leadership directly correlates with employee behaviour, which thereby leads to sickness absence. The results of their study also show that employees with leaders who use an incentive (inspirational) management style are less often absent from work than employees whose leaders do not use such a style. Studies also show that leaders who use an autocratic and dictatorial leadership style have a larger number of employees (particularly men) who take sick leave. This leadership style also has a negative influence on employees’ health. Buys et al. (2019) confirm that employees on LTSA appreciate contact from their leaders, and this is associated with perceived workplace support. Therefore, based on the literature, we hypothesise that:

\[ H2. \] A number of behaviours can define leader conduct; however, they affect the sickness absence of employees from work in different ways:

\[ H2a. \] Certain types of behaviour do not affect the sickness absence of employees.

\[ H2b. \] Certain types of behaviour raise the level of sickness absence of employees.
Certain types of behaviour raise the level of presence of employees at work.

Method
Procedure and participants
The survey data was collected in 2015, using an online questionnaire that we created with the Web tool 1ka; respondents included persons employed in public administration. Prior to the data collection, the originally designed questionnaire was tested on a sample of units, and adjusted according to the findings obtained when evaluating the reliability and validity of the questionnaire. We decided to take this step because we wanted to prepare a quality and useful questionnaire, and to check the originally designed questions/arguments. When testing the originally designed questionnaire, we found that certain questions and arguments were ambiguous. We also found that the surveyed individuals did not properly understand the instructions for answering those questions, which were thus eliminated in the final version of the questionnaire.

The target group of the survey was composed of employees in Slovenian public administration. In this paper, we define public administration as:

All those organisations that are part of the decision-making process on public issues, or which participate in the management of public affairs. Public administration therefore encompasses state administration (government offices, government departments, and administrative units), local community administration, and holders authorities (Buzeti et al., 2016).

Units in the survey sample were selected based on a predetermined system of strata or classes (stratified sampling) of the public administration organisational units, within which we determined the approximate number of units needed. We then carried out simple proportionate sampling. The distribution of units in strata was similarly proportional to that in the studied population. As part of the data acquisition process, our research yielded answers/data from 3,220 respondents, representing 8.1% of the total population of public administration employees in Slovenia. The gender analysis of the survey sample shows that more than three-quarters of the respondents were female (76.1%) and less than one-quarter (23.9%) were male. Most respondents in the sample were between 35 and 44 years of age (36.9%), or between 45 and 54 (34.7%). The average and median age of the respondents was 45 years, allowing for the division of the respondents into two evenly represented halves. The most frequent respondent age was 40. The youngest respondent was 20 years old, and the oldest was 67. More than one-third of the respondents had a university education (37.4%), while 31.4% of the respondents had a higher education degree or diploma. Respondents with secondary education represent 16.1% of the sample, while the smallest group comprises those who have completed a specialisation degree or who hold a master or doctoral degree (15.2% in total). The respondents had an average of 15.7 years of service in the organisation of current employment.

Instrument
To conduct the empirical research, we prepared an empirical questionnaire, which consisted of several questions or arguments. The questionnaire featured the following content groups.

The first set of questions included six short, open- and closed-type questions pertaining to the respondents’ socio-demographic characteristics, such as their employment organisation, field of work, gender, year of birth (age), level of education and years of service in the organisation of current employment. In addition to identifying the characteristics of
the respondents, the first set of questions was also intended to check the representativeness of the survey sample.

The second set of questions addressed employees’ temporary absence from work. Three short open and closed questions verified the frequency of absence from work in the past 12 months, expressed in the number of days and the number of absences, as well as the reasons for those absences. We used the methodology used by Ybema et al. (2010). The approach has also been used in other recent studies to determine the correlation of health absenteeism with other factors.

The third set of questions (statements) addressed the behaviour of leaders, specifically those who have been direct managers of respondents in the past 12 months. The third part consisted of 99 statements that allowed for the quantification of theoretically assumed constructs such as manipulative (8 questions), passive (5 questions) and assertive (7 questions) behaviours; the emotional stability (ES) of the leader (5 questions); the psychosocial behaviour of the leader (16 questions); behaviour regarding the establishment of a relationship with the leader and himself or herself (8 questions); ethical and moral behaviour (EM) (9 questions); transformational (10 questions) and transactional (9 questions) leadership; leadership authenticity (17 questions); and communication (5 questions). Respondents expressed their agreement with the arguments on a five-level measurement scale of positions, from total disagreement (number 1) to full agreement (number 5). In preparing the third set of arguments (questions) of the questionnaire, certain questions were created based on previously used questionnaires, which refer to the assumed constructs of the considered research field. Arguments (questions) associated with behaviour involving elements of transformational and transactional leadership were modelled based on the TLBI survey questionnaire (Podsakoff et al., 1990), which was also implemented by Mellor et al. (2009)[1] in its improved version. Using their methodological tool, we incorporated a few questions [2] into the full context of behaviour measurement with elements of transformational and transactional leadership. The questionnaire statements associated with behaviour involving elements of leadership authenticity are based on questionnaire statements prepared by Dimovski et al. (2013). In statements about the establishment of a leader’s relationship with himself or herself, we also used the Lestvice samopostovanja (The Self-esteem scale) questionnaire (Lamovec, 1988). Questions addressing other forms of behaviour defined in the questionnaire were developed based on the theoretical knowledge of the assumed constructs. Table 1 shows the basic statistics of the analysis that we performed.

The collected data was processed in the SPSS statistical programme, in which we conducted univariate, bivariate and multivariate analyses. Structural modelling was conducted in the AMOS programme. To verify the dimension of the leadership behaviour concept, we performed an exploratory factor analysis (EFA). The EFA was also performed to reduce the wide range of variables associated with leader behaviour. Using AMOS, we then performed a confirmatory factor analysis (CFA), in which we accounted for the results of the bivariate correlation analysis and the EFA. In the structural equation modelling process, we first compiled a model in which we included all the manifest variables for which we established with the EFA that they have a clear factor structure; then, according to the theoretically presumed conceptual model, we assigned the latent constructs, whereas all the latent variables in the model appeared exogenous (independent).

**Results**

The EFA results show that leader behaviour is a multi-dimensional construct, namely, there are five different dimensions, which is not consistent with our initial assumption of the
Table 1. Descriptive analysis of leader behaviour constructs

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min.</th>
<th>Max.</th>
<th>AM</th>
<th>SD</th>
<th>KOA</th>
<th>KOF</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>2,403</td>
<td>1</td>
<td>5</td>
<td>4.26</td>
<td>0.80</td>
<td>−1.28</td>
<td>1.26</td>
</tr>
<tr>
<td>S</td>
<td>2,381</td>
<td>1</td>
<td>5</td>
<td>3.79</td>
<td>0.63</td>
<td>−0.51</td>
<td>0.76</td>
</tr>
<tr>
<td>C</td>
<td>2,262</td>
<td>1</td>
<td>5</td>
<td>3.74</td>
<td>0.86</td>
<td>−0.53</td>
<td>0.00</td>
</tr>
<tr>
<td>MB</td>
<td>2,481</td>
<td>1</td>
<td>5</td>
<td>3.63</td>
<td>0.70</td>
<td>−0.49</td>
<td>0.06</td>
</tr>
<tr>
<td>BLA</td>
<td>2,273</td>
<td>1</td>
<td>5</td>
<td>3.54</td>
<td>0.78</td>
<td>−0.41</td>
<td>0.03</td>
</tr>
<tr>
<td>EM</td>
<td>2,359</td>
<td>1</td>
<td>5</td>
<td>3.46</td>
<td>0.87</td>
<td>−0.44</td>
<td>−0.22</td>
</tr>
<tr>
<td>ASB</td>
<td>2,422</td>
<td>1</td>
<td>5</td>
<td>3.45</td>
<td>0.86</td>
<td>−0.52</td>
<td>0.01</td>
</tr>
<tr>
<td>PB</td>
<td>2,484</td>
<td>1</td>
<td>5</td>
<td>3.41</td>
<td>0.58</td>
<td>−0.29</td>
<td>0.45</td>
</tr>
<tr>
<td>TBL</td>
<td>2,292</td>
<td>1</td>
<td>5</td>
<td>3.34</td>
<td>0.88</td>
<td>−0.32</td>
<td>−0.36</td>
</tr>
<tr>
<td>ES</td>
<td>2,436</td>
<td>1</td>
<td>5</td>
<td>3.23</td>
<td>0.59</td>
<td>−0.27</td>
<td>0.17</td>
</tr>
<tr>
<td>TLB</td>
<td>2,340</td>
<td>1</td>
<td>5</td>
<td>3.22</td>
<td>0.99</td>
<td>−0.36</td>
<td>−0.51</td>
</tr>
</tbody>
</table>

Notes: N – number of answers; Min. – minimal value; Max. – maximum value; AM – arithmetic mean; SD – standard deviation; KOA – coefficient of asymmetry; KOF – coefficient of flatness
existence of eleven mutually distinct constructs. The first dimension (factor) classifies the variables of the seven constructs, which together explain 30% of the leader behaviour variance, significantly higher than that in other dimensions. From the factor structure, it can thus be concluded that the theoretical constructs of assertive leader behaviour (ASB), behaviour that addresses the aspect of ES, EM, behaviour with elements of transformational leadership (TBL), behaviour with elements of leader authenticity (BLA), communication between leaders (C) and, to a greater extent, behaviour with transaction leadership elements (TLB) are not sufficiently mutually diverse to be considered separate constructs. Their interconnection is explained by the fact that they primarily concern cooperation with employees, honesty and fairness and emotional intelligence. Therefore, in our paper, this dimension is referred to as “leader progress” (LP).

The correlation matrix reveals that the behavioural construct associated with the psychosocial characteristics of leaders (M) is an individual dimension, explaining 15% of the leader behaviour variance. Together, the variables of passive behaviour (PB) related to the establishment of a relationship with the leader himself or herself explain 6% of the leader behaviour variance. Manipulative behaviour (MB) proved to be distinct from the other leader behaviour dimensions, because the MB variables correlated strongly in their own independent dimension. Together, they explain 4% of the leader behaviour variability. The work efficiency perception and recognition (WE) dimension explains 2% of the leader behaviour variance. Together, all the variables explain 57% of the leader behaviour variability; however, the shares of the explained variance are not evenly distributed across the individual dimensions. We therefore found that the variability in leader behaviour was best explained by the “leader progressiveness” construct, which is defined by the largest number of variables.

In the following section, we analyse the results of the CFA, which in this case implies the verification of the measurement model.

**Confirmatory factor analysis**

The CFA was conducted by structural modelling with the maximum probability method. Based on the EFA results, 11 basic constructs (first order) and two second-order constructs were formed. In the CFA context, we first evaluated the suitability of the measurement model with several indicators, as each indicator evaluates (checks) the suitability of the model from a different perspective. At the same time, through the CFA, we evaluated the validity and reliability of the designs. In the measurement model, we also added the dependent variable, “sickness absence”, which refers to sickness absence measured by the total number of days absent, to evaluate the suitability of the model.

The results of the CFA, which we performed based on the EFA factor structure findings, show that the suitability of the model were significantly improved, with incremental indicators (NFI = 0.921, CFI = 0.934 and TLI = 0.930) that exceed the valid values, and the parsimony of the model has improved (PNFI = 0.87), $\chi^2 = 10.933$, $Df = 1.854$, $p < 0.000$. Among the absolute suitability indicators, the normalised $\chi^2$ was improved, and approached the valid value (5.897). The RMSEA values (0.049) and the GFI (0.829) also improved in the modified measurement model, with RMSEA indicating good model suitability, and with the GFI indicator slightly below the limit of the valid value. Although one of the indicators (GFI) did not achieve valid values (considering that we deliberately preserved the internal structure of the factors according to a predetermined criterion for the [theoretical] matching of the variables), the value of the GFI indicator was not considered problematic. The adaptation of the modified measurement model was thus considered satisfactory.
In the next step, we checked the validity and reliability of the constructs in the measurement model. In the latter model, we included 62 manifest variables that form 12 factors of the first order. Among these, seven factors further form a second-order factor called “leader progress”. As shown in Table 2, all constructs achieve high composite reliability values, because the CR values exceed the limit of 0.6, and because they are generally higher than 0.9. When evaluating the internal consistency of the constructs with Cronbach’s α coefficient, the constructs showed high reliability, with the only exceptions being PB and behaviour that concerns the aspect of establishing a leader’s relationship with employees (S), which showed somewhat low α coefficient values ($α_{S} = 0.77$; $α_{PV} = 0.63$); however, in both cases, the values exceeded the limit of 0.6. The internal consistency of the constructs can therefore be assessed as good. The values of the extracted average AVE variants related to the convergent validity of the constructs in all the constructions of the first and second order, indicate the high convergent validity of the constructs; the only exception is the construct PB, whose manifest variables reach relatively low standardised regression weights, but we estimate that the AVE value of this construct is not critically low. The standardised regression weights $λ$ are higher than 0.5 for all measured variables and constructs of the first order, and are statistically significant at $p < 0.001$.

The results in Table 2 show that the individual constructs in the measurement model are distinct from each other, because the AVE values are higher than the SIC values, with the only exception being the SIC value between the constructs MB and PB. Their SIC value (SICPN-MB = 0.51) exceeds the AVE value for the construct of PB (AVEPB = 0.47). Through the CFA, we have demonstrated the strong internal consistency of the formed constructs and their convergent and discriminatory validity.

**Structural model verification**

We analyse the influence of leader behaviour, defined by the 12 constructs (latent variables) that consist of 62 manifest variables, which represent various measured aspects of leader behaviour on sickness absence. The seven constructs, from which we previously established a strong connection, form a second-order construct denoting “the progress of the leader” (LP).

The matching indicators of the theoretical structural model have deteriorated somewhat, in comparison with those for the measurement model, with all indications of suitability exceeding (NFI = 0.915, CFI = 0.927, TLI = 0.924 and PNFI = 0.871) or remaining close to the valid values (RMSEA = 0.052). The exception is the GFI index, which is 0.82. $χ^2 = 11.789$, $Df = 1.859$, $p = 0.00$ and normed $χ^2 (χ^2/df) = 6.342$. Because we achieved valid values for

<table>
<thead>
<tr>
<th></th>
<th>LP</th>
<th>M</th>
<th>MB</th>
<th>S</th>
<th>WP</th>
<th>PB</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVE</td>
<td>0.86</td>
<td>0.74</td>
<td>0.66</td>
<td>0.64</td>
<td>0.83</td>
<td>0.47</td>
</tr>
<tr>
<td>LP</td>
<td>0.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>0.74</td>
<td>0.48</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MB</td>
<td>0.66</td>
<td>0.34</td>
<td>0.09</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>0.64</td>
<td>0.02</td>
<td>0.00</td>
<td>0.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WP</td>
<td>0.83</td>
<td>0.37</td>
<td>0.23</td>
<td>0.16</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>PB</td>
<td>0.47</td>
<td>0.33</td>
<td>0.06</td>
<td>0.51</td>
<td>0.26</td>
<td>0.13</td>
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**Notes:** LP – leader progress; M – behaviour addressing the psychosocial aspect of leader behaviour; MB – manipulative behaviour; S – behaviour addressing the aspect of a leader establishing a relationship with employees; WP – the perception and recognition of work performance; PB – passive behaviour
most of the indicators of model suitability, while acknowledging that the purpose of the structural model is of a confirmatory nature, the suitability is deemed satisfactory.

We find that behaviour that concerns the leader’s psychosocial behaviour (M) positively influences the perception of “leader progress”, as defined by ASB, EM, behaviour with elements of transformational leadership (TBL), behaviour with transactional leadership elements (TLB), behaviour with leadership authenticity elements (BLA), communication (C) and behaviour considering the aspect of ES. It appears that the more the employee perceives the psychosocial behaviour of their leader as appropriate and positive, the more the behaviour will be recognised as “advanced” (LP). On the other hand, the more the psychosocial behaviour of leaders is inappropriate and bad (negative; in this case, we could also consider the aspect of psychological violence or bullying), the less the employees will perceive the leader’s behaviour as “advanced”.

It is also important to note that the second-order construct of “leader progress” has a negative effect on sickness absence, which means that when more employees recognise leadership behaviour as “advanced”, the less they will be absent from work, and vice versa. The psychosocial behaviour of the leader (M) also affects sickness absence, although indirectly through the perception of the progress of the leader. Namely, the improvement of the psychosocial behaviour of the leader will be indirectly reflected in a reduction in sickness absence. On the other hand, we also find that constructs related to MB, PB, perceptions and recognition of work performance (WP) and behaviour that addresses the aspect of establishing a leader’s relationship with employees (S), do not have any direct or indirect influence on sickness absence.

The effect of perceived “leader progress”, which was found to have a negative effect on sickness absence, is observed to be statistically significant at $p < 0.001$. The standardised regression coefficient $\beta$, which equals $-0.11$, indicates a weak effect, but if the effect is interpreted with a non-standardised regression coefficient, it can be argued that the increase in the perception of progress (measured on a five-point scale) for one unit would be reflected in a reduction of 2.8 days a year per employee (Table 3). The influence of the psychosocial behaviour of the leader (M) on the perceived progression of the leader proves to be strong and statistically significant ($\beta_{M-\text{NV}} = 0.70; p < 0.001$).

Because we measured the influence of the constructs of ASB, EM, behaviour with elements of transformational leadership (TBL), behaviour with transactional leadership elements (TLB), behaviour with leadership authenticity elements (BLA), communication (C) and behaviour considering the aspect of ES on sickness absence with the second-order construct “leader progress”, their actual impact on sickness absence is difficult to define. Nevertheless, based on the standardised regression coefficients, the strongest effect on

<table>
<thead>
<tr>
<th>Connection</th>
<th>$B$</th>
<th>$B$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>LP $\rightarrow$ Absence</td>
<td>$-2.774$</td>
<td>$-0.109$</td>
<td>***</td>
</tr>
<tr>
<td>MB $\rightarrow$</td>
<td>$-0.181$</td>
<td>$-0.008$</td>
<td>0.858</td>
</tr>
<tr>
<td>WP $\rightarrow$</td>
<td>0.069</td>
<td>0.004</td>
<td>0.899</td>
</tr>
<tr>
<td>PB $\rightarrow$</td>
<td>0.803</td>
<td>0.031</td>
<td>0.582</td>
</tr>
<tr>
<td>S $\rightarrow$</td>
<td>$-1.086$</td>
<td>$-0.039$</td>
<td>0.245</td>
</tr>
</tbody>
</table>

Notes: $\rightarrow$ and $\leftarrow$ directions of connection; $B$ – non-standard regression coefficient; $\beta$ – standardised regression coefficient; $p$ – degree of statistical characteristics; *** – $p < 0.001$; LP – leader progress; MB – manipulative behaviour; S – behaviour addressing the aspect of a leader establishing a relationship with employees; WP – the perception and recognition of work performance; PB – passive behaviour

Table 3. Standardised and non-standardised regression coefficients of connections between constructs in the theoretical structural model
sickness absence is presented by behaviour with leadership authenticity elements (BLA) ($\beta_{BLA-NV} = 0.99; p < 0.001$), “ethical and moral behaviour” ($\beta_{EM-NV} = 0.98; p < 0.001$) and “communication” ($\beta_{C-NV} = 0.95; p < 0.001$). These types of behaviour are followed by behaviour with elements of transformational leadership ($\beta_{TBL-NV} = 0.92; p < 0.001$), ASB ($\beta_{ASB-NV} = 0.91; p < 0.001$) and behaviour concerning the aspect of ES ($\beta_{ES-NV} = 0.90; p < 0.001$). The weakest effect on sickness absence is observed for behaviour with elements of transactional management ($\beta_{TAV-NV} = 0.82; p < 0.001$).

Discussion

Leadership, or leader behaviour, represents one of the most significant psychosocial factors of the work environment that affect sickness absence; therefore, in considering the sickness absence of employees, attention should be paid to the indicated factor, as well as other factors of the work environment. Thorsen et al. (2021) argue that:

[...] work environment interventions that improve different aspects of the psychosocial work environment, may be important in the prevention of sickness absence of all lengths. Poor physical and poor psychosocial work environment factors are associated with long-term sickness absence from work.

At the forefront of our research were the questions concerning whether there is a connection between leader behaviour and sickness absence, and to what extent the individual behaviour of leaders affects sickness absence. The results of our research show a negative one-way connection between certain leader behaviours and sickness absence in public administration. $H1$, regarding the connection between the behaviour of direct leaders and the employee sickness absence in public administration, can be partially confirmed. In the case of leader behaviours related to MB and PB, and the recognition of WP and behaviour, which concern the aspect of the leader establishing a relationship with employees, we did not find a statistically significant effect on the sickness absence. This is, at least in one part, similar to what Inceoglu et al. (2018) claim, namely, that leadership behaviour has a significant impact on employee behaviour, performance and well-being. Moreover, the research of Sørensen et al. (2020), Gottlieb and Gotzsche-Astrup (2019), Nielsen and Daniels (2016) and Elshout et al. (2013) shows that leadership and leader behaviour are related to sickness absence. Furthermore, a research by Stengård et al. (2020) suggests that poor perceived leadership of the line manager is associated with a higher risk of sickness absence over time. Nielsen and Daniels (2016) also confirm a positive relationship between transformational leadership and sickness absence.

We find that the behaviour of leaders in our case can be defined as a six-dimensional construct, where each dimension represents a separate set of behavioural characteristics. “Leader progress” is the most important dimension (construct) of leader behaviour. Other constructs include behaviour concerning the aspect of the psychosocial behaviour of the leader, MB, behaviour regarding the aspect of establishing a leader’s relationship with employees, behaviour concerning recognition of WP and PB. LP is the only dimension that has a direct effect on sickness absence. When there is greater perceived “progressiveness” of the leader, the less the employees are temporarily absent from work. In other words, ASB, EM, behaviour with elements of transformational, transactional and authentic leadership, communication and emotionally stable behaviour, which define “leader progress”, affect the sickness absence of employees. Concurrently, through perceived “leader progress”, behaviour concerning the psychosocial behaviour of the leader also affects the sickness absence. $H2$ and the sub-hypotheses $H2a$, $H2b$ and $H2c$ can be confirmed, because we found that the behaviour of leaders can be defined by most behaviour that have different effect on
the sickness absence of employees. Based on our data analysis using the structural modelling technique, we observed the following:

- Some behaviours that we measured do not affect the sickness absence, namely, MB, behaviour concerning the aspect of establishing a leader’s relationship towards him or herself, behaviour concerning recognition of WP and PB.

- Some behaviours increase the sickness absence. We have determined that the sickness absence will increase according to how the “leader’s progress” is perceived. Thus, when there is greater perceived “leader progress”, the sickness absence will become higher. Hence, the less the leader follows the principles of authentic transformational and transactional management, assertive, ethical, morally and emotionally stable behaviour and poor communication, the longer the employees will be temporarily absent from work. In addition, behaviour that addresses the aspect of the psychosocial behaviour of the leader indirectly increases the sickness absence. Therefore, the more inadequate the psychosocial behaviour of the leader is, the less the “leader progress” is perceived, which will result in (show) an increase in the sickness absence.

- Some behaviour influences the increase in the presence of employees at work. As part of the analysis, it was also observed that the more the leader is aware of his or her “progress”, the less the employees are temporarily absent from work. The influence of the “leader’s progress” on the sickness absence of employees appears to be weak, but at the same time, we found that a one-point increase in perceived “leader’s progress” (measured on a five-point scale) leads to a reduction in the sickness absence of one employee of 2.8 days per year, or an increase in his or her presence at work of 2.8 days per year.

Our research shows that the more the employees perceive their leader as valuable in terms of “progressiveness”, the lower is the sickness absence. Interestingly, in their research, Sørensen et al. (2020) confirm that low leadership quality predicts a higher risk of LTSA in both men and women, in all age groups, at all educational levels and among employees in the private and public sectors. The research by Nielsen et al. (2019) shows that empowering, but not fair and supportive leader behaviour, is associated with lower risk of sickness absence. Their research shows that certain leader behaviours are not associated with lowering the risk of sickness absence. A significant part of the “leader progress” dimension, having the sole direct effect on sickness absence in our research, is related to elements of transformational leadership; moreover, research by Nielsen and Daniels (2016), Elshout et al. (2013), Frooman et al. (2012) and Mellor et al. (2009) also shows a correlation between sickness absence and leadership transformational style, which correlates with low sickness rates. The importance and usefulness of the findings is presented in the section on theoretical and practical implications.

Conclusion

Statistical calculations in our study showed that a one-point increase in perceived “leader’s progress” (measured on a five-point scale) equates to a reduction in the number of days of sickness absence for one employee of 2.8 days per year. With the construct of “leader progress”, we define all those leaders who are what they essentially are. We can define them as “advanced leaders”. They are genuine, honest, original, discernible, clear, credible, optimistic, cooperative, internally harmonised, solid and principled, and they are recognised as unique and authentic. They are not pretending. They have created their own identity or
idea of who they are (self-esteem). They have their own beliefs, attitudes, value system and moral and ethical standards that they take into account in their work in private and business life, and they are confident in this respect and not “dependent on the needs and requirements of others”. Advanced leaders are understandable and acceptable, open to new proposals and improvements, and different thinking, but they are confident in their “inner value” field and personal integrity.

Theoretical implications
The contributions of our study are varied. The results of our research on sickness absence and leadership (leader behaviour) will further contribute to theoretical knowledge and literature, as we have confirmed through our research that leader behaviour is multidimensional and recognised through various forms or activities, and certain leader behaviour types affect sickness absence, while in some cases, we cannot confirm this relationship. This is important both for theoretical knowledge and for future research on leader behaviour, which will enable us to better understand that leader behaviour consists of several behavioural constructs and that the correlation between individual leader behaviour and sickness absence can vary. However, important insights have been gained for the theory, namely, that leader behaviour associated with elements of authentic and transformational leadership, as well as sound communication and EM, and emotionally stable behaviour, can positively affect lower sickness absence of employees in public administration. In other words, we supplement theoretical knowledge with the fact that the more the employees recognise their leader as authentic, genuine, cooperative and moral, the less they are likely to be absent because of sickness. Therefore, we believe that we have shed some light on another theoretical perspective on the understanding of complex co-influence of different forms of behaviour, through which leader behaviour is recognised or perceived. In this way, we draw up an additional concept of understanding leadership or leaders, which we call “advanced”. We have proved that the more the leaders are perceived as “advanced”, the less the employees are absent from work.

A significant contribution of our work to theoretical knowledge is closely linked to the first contribution, and represents a structured model of the correlation between sickness absence and leader behaviour. With this model, it is possible to determine which behavioural forms of leaders affect sickness absence, and determine where leader behaviour is treated as a complex whole and not as an individual behavioural characteristic. We believe that this is a great advantage of the structural model, as it enables us to predict employee behaviour in connection with sickness absence based on leader behaviour. This expands the conceptual knowledge, and enables new opportunities for upgrading the knowledge with new research.

Moreover, our work is important for the theory (and practice), namely, our research shows that a certain proportion of sickness absence among public administration employees is not affected by the employer and leaders (e.g. temporary absence because of illness or injury in children, etc.), and that it is necessary to identify a number of factors which affect sickness absence. Through our research, we established that leader behaviour is just one of these factors – this finding sheds light on the extent of sickness absence. However, the identification of other factors should be the subject of further research.

Research examining the link between leader behaviour and sickness absence in public administration is rare; therefore, the results of our study represent an important contribution to this field. Our research includes an in-depth analysis (study) of the correlation between leader behaviour and sickness absence in public administration, as it provides concrete
guidelines (answers) on the most important aspects of behaviour that leaders can change (employee leadership) so that employees are absent from work less frequently.

**Practical implications**

The results of this research have several implications in practice. A “cost-effective” JB leadership model was developed based on our research, which can be used for measuring leader behaviour in relation to sickness absence in public administration practice. The model consists of 6 constructs (behavioural forms) or 41 variables, which explain the effect of leader behaviour on sickness absence. The designed model enables employers, policymakers and managers to determine the correlation between leader behaviour and sickness absence in public administration. A survey questionnaire has been developed as part of the model, which enables measurement and the creation of appropriate measures in connection with leader behaviour and sickness absence. The survey questionnaire for determining a correlation between leader behaviour and sickness absence can be used by all organisations within public administration, leaders, researchers and others who wish to measure and determine leader behaviour and its correlation with sickness absence.

We found that leader behaviour styles that affect sickness absence are related to the transformational, authentic, transactional and supportive styles, which coincide with some of the results of the studies. Such knowledge is of great practical significance, as it provides leaders and policymakers with information and verified data on appropriate leader behaviour in public administration, which reduces sickness absence and absenteeism in the workplace. Leaders in public administration gain an insight into the relationship with employees, in which leaders assume the role, including the elements defined by the “leader progress” dimension, and adjust their behaviour and education in this respect. Moreover, this knowledge makes it easier for managers and employers to design practical training programmes for managerial staff in practice. Furthermore, the results are useful because they enable an insight and a reflection on whether leaders of employees with a higher sickness absence rate are suitable for leadership.

Sickness absence in public administration is higher than in the private sector; therefore, the results of our research are of the utmost importance, as they provide useful information on the potential for reducing sickness absence to policymakers, the state and employers. Our work proves that there is a potential for having leaders who use authentic and transformational leadership in managerial positions in public administration. An implication of this finding is that organisations can reduce the risk of sickness absence by providing “advanced leaders”, as they are interested in employees who are temporarily absent, namely, according to Buys et al. (2019), employees on LTSA appreciate contact from their leaders; this can have a long-term impact on reducing sickness absence and costs incurred to employers and the state in this respect. The data shows that the percentage and costs associated with sickness absenteeism in the Slovenian public administration are increasing over the years. The results of our research also provide public administration employee opinions on the best kind of leader in terms of temporary absence from work, which is also useful in practice for employee representatives or unions, as it provides specific evidence that can be used in drawing up new policies in public administration employee conditions, negotiations, etc.

**Limitations**

When interpreting and analysing the results of our research, it is important to note that leader behaviour is only one of the many factors that influence sickness absence. With behaviour alone, it is not possible to explain the overall share of the variability in actual
sickness absence. Schreuder et al. (2011) confirm that leadership style associated with sickness absence represents only 10% of the variance of absenteeism. In our study, therefore, we focused only on one segment of factors (the behaviour of leaders) that affects sickness absence. To explain the maximum possible measure of the variability in sickness absence, we believe it would be best to include several different influencing factors.

Notes

1. The effects of transformational leadership on employee absenteeism in four UK public sector organisations (2008).
2. The questions used were taken from Mellor et al. (2009): 1, 2, 3, 4, 5, 6, 8, 9, 13, 14, 16, 17, 18, 20, 22, 23 and 25. In our questionnaire, we appropriately distributed individual statements among leader behaviour types.

References


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Further reading


About the author

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