

THE PERCEIVED SUPERVISOR LEADERSHIP STYLE QUESTIONNAIRE (PSLSQ): CONSTRUCTION AND PSYCHOMETRIC VALIDATION

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Purpose: The purpose of this paper is to develop and psychometrically validate the Perceived Supervisor Leadership Style Questionnaire (PSLSQ), designed to measure employees' perceptions of their direct supervisor's leadership behaviors.

Design/methodology/approach: The study applied a multi-stage psychometric validation procedure grounded in leadership and job characteristics theories. After item development, expert review, and assessment of content validity using Lawshe's method, pilot testing was conducted. Next, the internal structure of the questionnaire was examined using exploratory factor analysis, followed by confirmatory factor analysis to verify the proposed model. Model fit was evaluated using standard fit indices. Reliability was assessed with Cronbach's alpha and test-retest analysis, and theoretical validity was examined via correlations with job characteristics, supervisor support, job satisfaction, and Big Five traits.

Findings: The validation results confirm that the PSLSQ can be successfully used to measure four dimensions of perceived supervisor leadership: friendliness, autonomy, feedback, and justice. The scale showed high reliability and strong test-retest stability. Convergent validity was supported by correlations with supervisor support, job satisfaction, and job characteristics, discriminant validity was largely confirmed.

Research limitations/implications: The study relies exclusively on self-report measures, which may introduce common method bias. Future research should explore longitudinal effects of perceived leadership style on employee outcomes.

Practical implications: The PSLSQ provides organizations with a reliable diagnostic tool for assessing employees' perceptions of supervisory behaviors. It may be used in leadership development programs, organizational climate assessments, and performance management systems. The questionnaire allows organizations to identify strengths and weaknesses in managerial behaviors and implement targeted interventions to enhance feedback quality, fairness practices, relational leadership, and autonomy support.

Social implications: By promoting relational and fairness-based leadership, the tool supports more ethical and employee-centered management. Strengthening friendliness, autonomy, feedback, and justice may enhance well-being, psychological safety, trust, and overall quality of working life.

Originality/value: The paper presents an original Polish measure of perceived supervisor leadership from the employee's perspective. Unlike self-report leadership tools, it focuses on employees' subjective perceptions. The study offers comprehensive psychometric validation and integrates relational and structural aspects of leadership into a unified four-factor model.

Keywords: Perceived leadership style; Supervisor behavior; Leadership measurement; Psychometric validation.

Category of the paper: Research paper.

1. Introduction

Leadership style has been widely studied in the fields of organizational psychology and management, as it plays a crucial role in shaping employee motivation, job satisfaction, and organizational effectiveness (Bass, 2000; Avolio, Bass, 1991; Hackman, Oldham, 1980). Numerous studies indicate that the quality of the relationship between supervisors and employees significantly influences work engagement, psychological well-being, and performance outcomes.

Despite the extensive literature on leadership, many existing measurement tools rely primarily on self-reports completed by leaders, rather than on employees' perceptions of managerial behavior. However, research suggests that employees' subjective perceptions of leadership behaviors may be particularly important because they directly shape attitudes toward work and the organization.

Contemporary research on organizational functioning emphasizes the importance of the quality of supervisor-employee relationships for employee well-being, motivation, and performance. Particular attention is paid to leadership style, which can be analyzed through dimensions such as friendliness, autonomy, feedback, and justice. These dimensions reflect both the relational aspect of leadership and its structural-organizational component. At the same time, an increasing number of organizations are shifting focus toward employees, providing opportunities for bottom-up initiatives proposed by staff. Therefore, discussions of leadership styles cannot omit how managerial actions are perceived by employees. It should be noted that supervisors are not always aware of which aspects of work can be modified to meet employee needs. The author of this article developed a model of perceived leadership style based on four components: friendliness, autonomy, feedback, and justice with the aim of creating a tool aligned with contemporary theoretical approaches to perceived supervisor leadership and establishing its psychometric properties, including validity and reliability.

Although several leadership questionnaires exist, there is still a limited number of validated questionnaires designed specifically to measure employees' perceptions of their direct supervisor's leadership style, especially within the Polish organizational context. Moreover, many available tools focus mainly on transformational or transactional leadership, while fewer integrate both relational and structural aspects of managerial behavior. Therefore, the main aim of this study was to develop and psychometrically validate a new questionnaire - the Perceived Supervisor Leadership Style Questionnaire (PSLSQ) designed to measure employees' perceptions of their direct supervisor's leadership behaviors. The specific objectives of the

study were: to develop items describing key components of perceived supervisor leadership style, examine the internal structure of the questionnaire, assess the reliability and stability of the questionnaire, and evaluate its construct validity through relationships with selected organizational and personality variables. In this article, the term “questionnaire” is used consistently to refer to the Perceived Supervisor Leadership Style Questionnaire (PSLSQ). In some contexts it may also be described as a research “tool”, however these terms refer to the same measurement questionnaire.

Based on theoretical assumptions, the following hypotheses were formulated:

H1: The PSLSQ will demonstrate a four-factor structure corresponding to the components: friendliness, autonomy, feedback, and justice.

H2: The PSLSQ will demonstrate high internal consistency and stability over time.

H3: The PSLSQ dimensions will show positive correlations with theoretically related constructs, such as supervisor support, job satisfaction, and selected job characteristics (convergent validity).

H4: The PSLSQ dimensions will show low or non-significant correlations with unrelated personality traits, confirming discriminant validity.

The remainder of the article is organized as follows. The next section presents the conceptual framework of perceived supervisor leadership and the operationalization of the construct. The subsequent sections describe the methodology and results of the multi-stage validation process, including exploratory and confirmatory factor analyses, reliability assessment, and validity testing. The article concludes with a discussion of the results, limitations of the study, and directions for future research.

2. Conceptualization and Operationalization of the Perceived Supervisor Leadership Style Construct

The development of the Perceived Supervisor Leadership Style Questionnaire (PSLSQ) was conducted in accordance with methodological guidelines for psychological test construction described in the relevant literature (Brzeziński, 1985, 2000, 2004; Hornowska, 2001; Shaughnessy, Zechmeister, Zechmeister, 2002). First, a theoretical definition was established, followed by item generation and statistical verification of the questionnaire. Based on the results, the final test items were selected for inclusion in the questionnaire. The next step involved examining theoretical and criterion validity.

In constructing the tool, it was necessary to adopt a theoretical framework for supervisor leadership style. Based on the literature review, four components of perceived supervisor leadership were identified, drawing on: the Situational Leadership Theory by Paul Hersey and Ken Blanchard (1969), the Job Characteristics Model by Richard Hackman and Greg Oldham

(1980), and the Full Range Leadership Model (Avolio, Bass, 1991; Bass, 2000). The following behavioral components of supervisors were formulated: friendliness, autonomy, feedback, and justice.

These components are described in detail below:

- friendliness - the supervisor listens, provides psychological support, and evokes positive emotions. They approach employees with empathy, strive to create a positive work atmosphere, maintain good relationships with colleagues, take time to listen, and show genuine interest in the employee and their role within the organization.
- autonomy - the degree of independence an employee has in the workplace, allowing freedom in decision-making regarding task execution. The employee controls actions and outcomes within the scope of assigned tasks.
- feedback - the extent to which the supervisor provides direct and clear information regarding the quality, effectiveness, and perception of employee actions. It also refers to the consistency and frequency of feedback, with the supervisor clearly and objectively reporting on progress or goal attainment.
- justice - based on clear and equitable organizational rules regarding evaluation, compensation, recognition, and promotion of employees, which supervisors follow and enforce. Supervisors ensure that these rules are respected by employees and accepted by them, applying equality among staff.

Previous concepts focused on identifying and evaluating the supervisor's leadership style from their own perspective. The author of this article suggests analyzing supervisor behavior from the employee's perspective, as the employee's perception of managerial actions directly affects their performance and productivity at work. The above section provides a theoretical background and literature-based conceptual framework for the development of the PSLSQ questionnaire. It integrates selected concepts from leadership and job design research that guided the operationalization of the construct.

3. Procedure for constructing the Perceived Supervisor Leadership Style Questionnaire (PSLSQ)

3.1. Methodology

The development and validation of the Perceived Supervisor Leadership Style Questionnaire (PSLSQ) followed a multi-stage research procedure, commonly recommended in psychometric test construction. The research process consisted of four consecutive studies, each focusing on a different aspect of the questionnaire validation. The individual stages of the research procedure were designed to verify the hypotheses formulated in the introduction. In particular, Study 1 and Study 3 examined the factorial structure of the questionnaire (H1),

Study 2 assessed the temporal stability of the scale (H2), while Study 4 tested the construct validity of the questionnaire by examining its relationships with theoretically related and unrelated variables (H3 and H4).

Table 1.

Stages of the PLSLQ validation procedure

Stage	Objective	Sample size	Method
Study 1	Exploration of factor structure	N = 224	Exploratory Factor Analysis
Study 2	Assessment of temporal stability	N = 33	Test-retest reliability
Study 3	Verification of factor structure	N = 827	Confirmatory Factor Analysis
Study 4	Assessment of construct validity	N = 100	Correlation analysis

Source: own work.

The differences in sample sizes reflect the multi-stage validation design of the study. Different participant groups were used for exploratory factor analysis (Study 1), confirmatory factor analysis (Study 3), and validity testing (Study 4) to ensure independent verification of the questionnaire's psychometric properties. The following statistical procedures were applied: content validity assessment using Lawshe's method, exploratory factor analysis, confirmatory factor analysis, internal consistency reliability (Cronbach's alpha). Test-retest reliability, Pearson correlation analysis

This multi-stage procedure allowed for a comprehensive evaluation of the questionnaire's structure, reliability, and construct validity.

3.2. Exploration of the internal structure of the Perceived Supervisor Leadership Style Questionnaire (PSLSQ)

The development of the questionnaire for measuring perceived supervisor leadership style proceeded in several stages. In the first stage, an initial pool of 124 test items was generated, intended to represent behaviors a direct supervisor might exhibit, with 31 items for each leadership style factor. In the second stage, these items were reviewed for linguistic correctness (12 items modified) and content validity (25 items removed) by a panel of five competent judges (two faculty members and three PhD students). This evaluation resulted in a preliminary version of the questionnaire containing 94 items.

Next, content validity was assessed using Lawshe's method. Forty judges evaluated the items based on definitions of the four leadership styles. Following Lawshe (1975), judges rated each item on a 3-point scale: 1 – "essential for the test", 2 – "useful but not essential", 3 – "should not be included". The content validity ratio (CVR) for each item was calculated as the difference between the number of judges rating it "1" and half of the total number of judges, divided by half the total number of judges. According to Lawshe's recommendations, items were eliminated if agreement could be attributed to chance or exceeded a 5% threshold. For 40 judges, the minimum CVR for statistical significance at $\alpha = 0.05$ was 0.29 (Lawshe, 1975; Hornowska, 2007).

The questionnaire was further validated by 23 competent judges (psychology students) to obtain Kendall's W coefficient for agreement. The mean content validity scores ranged from 2.96 to 4.96, with an overall mean of 4.32. Kendall's W was 0.238, $p < 0.001$ ($\text{Chi}^2 = 487.19$, $df = 93$). Based on CVR and Kendall's W, the items with the highest values were selected for the pilot version of the Perceived Supervisor Leadership Style Questionnaire, comprising 40 items: 10 per factor.

Theoretical validity of the new questionnaire was assessed using exploratory factor analysis (EFA) followed by confirmatory factor analysis (CFA). Factor analysis is a set of statistical methods aimed at estimating the covariation (correlations) among multiple variables to extract underlying factors. It helps explain observed relationships between variables, allowing interpretation of multiple measurements as manifestations of a smaller number of factors. Using exploratory factor analysis with a redundancy function allowed identification of correlated items measuring the same factor, while reducing the total number of items without losing information. Ultimately, items with the highest factor loadings were included in the final questionnaire (Ferguson, Takane, 1999; Kline, 2000).

Study 1. For factor analysis, a sample of 224 participants was collected (125 women, 99 men), aged 18-62 years ($M = 37.46$, $SD = 11.45$), including employees of public institutions (teachers, civil servants, nurses) and private companies (IT corporate employees, technical staff in mobile networks, security personnel).

Before conducting factor analysis, the suitability of the data for factor extraction was assessed. A correlation matrix of the variables was generated, and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were calculated. Bartlett's test examines the null hypothesis that the correlation matrix is an identity matrix, which would indicate that the variables are unrelated and therefore unsuitable for factor analysis. The obtained results confirmed that the data were appropriate for factor analysis (Table 2).

Table 2.

Results of the Kaiser–Meyer–Olkin (KMO) Measure and Bartlett's Test of Sphericity Assessing the Suitability of the PLSLQ Item Correlation Matrix for Factor Analysis (Study 1, $N = 224$)

KMO Measure of Sampling Adequacy		0,96
Bartlett's Test of Sphericity	Approximate Chi ²	10960,78
	<i>df</i>	780
	<i>p</i>	0,001

Note. *df* - degrees of freedom, *p* -value <0,001.

Source: own work.

Bartlett's test of sphericity was statistically significant, indicating that the correlation matrix differed significantly from an identity matrix and that the variables were sufficiently correlated to justify factor analysis. The Kaiser-Meyer-Olkin (KMO) measure was also high at 0.96, indicating sampling adequacy. Data with KMO values above 0.8 are considered appropriate for

factor analysis (Kaiser, 1970). These results justified conducting principal component analysis. Factor loadings revealed the presence of four factors (Table 3): for the first factor (friendliness), loadings ranged from 0.77 to 0.89; for the second factor (autonomy), from 0.85 to 0.90; for the third factor (feedback), from 0.56 to 0.90; and for the fourth factor (justice), from 0.55 to 0.75.

Table 3.

Exploratory Factor Analysis Showing Factor Loadings of PSLSQ Items for an Four-Factor Solution (N= 224)

Item	Factor loadings				M	SD
	1	2	3	4		
1. Responds to employees' needs.	0,89*	0,08	-0,04	-0,02	3,78	1,48
2. Fosters a positive attitude among employees.	0,87*	-0,09	0,02	0,13	3,59	1,63
3. Listens to employees.	0,83*	0,02	0,07	0,10	3,79	1,60
4. Shows genuine interest in the employee and their role in the organization.	0,77*	0,18	0,04	0,02	3,60	1,65
5. Enables employees to plan their work independently.	-0,01	0,93*	-0,06	-0,07	4,42	1,59
6. Allows employees to organize their working time independently.	-0,05	0,90*	0,09	-0,10	4,32	1,56
7. Allows employees freedom to choose strategies for completing tasks.	-0,04	0,89*	0,04	0,07	3,99	1,49
8. Allows independence in how employees perform their work.	-0,01	0,85*	-0,08	0,09	4,29	1,46
9. Informs employees about the quality of task performance.	-0,06	0,03	0,90*	0,14	3,68	1,55
10. Provides information on progress toward goal achievement.	0,18	0,07	0,65*	0,15	3,61	1,60
11. Gives feedback that is clear and objective.	0,17	0,05	0,60*	0,26	3,37	1,57
12. Informs employees whether they meet expectations, about their results, and how they carry out their tasks.	0,17	0,19	0,56*	0,17	3,58	1,56
13. Expresses recognition in a fair manner.	0,02	0,07	0,17	0,75*	3,66	1,56
14. Adheres to established rules for rewarding and promoting employees.	0,19	0,11	0,13	0,66*	3,67	1,57
15. Evaluates employees' work effort justice.	0,18	0,11	0,28	0,57*	3,60	1,59
16. Bases task evaluation on reliable and transparent criteria.	0,20	0,18	0,17	0,55*	3,64	1,60

* Factor loading values for individual dimensions: friendliness, autonomy, feedback, justice. Items for each factor are listed in descending order based on loadings. The boldfaced text indicates items assigned to each factor.

Source: own work.

The conducted factor analysis using the principal components extraction method (rotation method: Oblimin with Kaiser normalization) also allowed for the identification of four factors explaining a total of 75.68% of the variance. Table 2 presents the means and standard deviations for individual items of the Perceived Supervisor Leadership Style Questionnaire. For further analyses, 16 items were selected that demonstrated the highest factor loadings (> 0.55).

The first factor consists of items referring to the **friendliness** component (four items, with reliability measured by Cronbach's alpha equal to 0.95). The second factor comprises items related to the autonomy component (four items, Cronbach's alpha = 0.94). The third factor includes items representing the feedback component (four items, with reliability measured by Cronbach's alpha equal to 0.92). The fourth factor represents the justice

component (Cronbach's alpha = 0.95). The Cronbach's alpha reliability coefficient for all 16 items of the scale was 0.96, which should be considered very high. Cronbach's alpha coefficient of internal consistency indicates the degree of homogeneity of items comprising particular test scales (Brzeziński, 2004). Reliability analysis of a scale is based on the correlations between individual items forming the scale in relation to item variance. If the items do not reflect true scores but only error, the variance of the total score will be equal to the sum of the variances of individual items, and the alpha coefficient will be equal to zero. Conversely, the alpha coefficient equals 1 when all items are perfectly reliable and measure exactly the same construct.

The obtained results support the hypothesis H1, which assumed a four-factor structure of the PSLSQ corresponding to the components: friendliness, autonomy, feedback, and justice.

The reliability of the tool was also assessed using test-retest method.

Study 2. The assessment of the questionnaire's absolute stability was conducted among 33 employed pedagogy students who completed the questionnaire twice, with a four-week interval between measurements. The correlation coefficients between the two measurements were high and amounted to: $r = 0.88$ for friendliness, $r = 0.85$ for autonomy, $r = 0.85$ for feedback, and $r = 0.87$ for justice. These results support hypothesis H2, indicating that the PSLSQ demonstrates satisfactory temporal stability.

Despite accounting for individual and situational factors that may modify the perception of behaviors over the course of a month, the obtained results indicate a very good and positive evaluation of the questionnaires absolute stability. The Kaiser criterion has several limitations; for example, it tends to overestimate the number of components and is viewed as arbitrary (Hayton et al., 2004) in connection with applied other criteria to evaluate the number of PSLSQ components -Cattell's Scree Plot. Figure 1 presents the scree plot obtained from the exploratory factor analysis of the PSLSQ items. The X-axis represents the extracted components, while the Y-axis shows their corresponding eigenvalues. The scree plot illustrates a clear break after the fourth component, indicating that four factors should be retained. This pattern supports the theoretical assumption of a four-dimensional structure of the questionnaire.

In summary, the exploration of the factor structure based on the initial pool of test items allowed for the identification of 16 items, which were included in the final version of the PSLSQ. The results of the scree test suggested the presence of four factors.

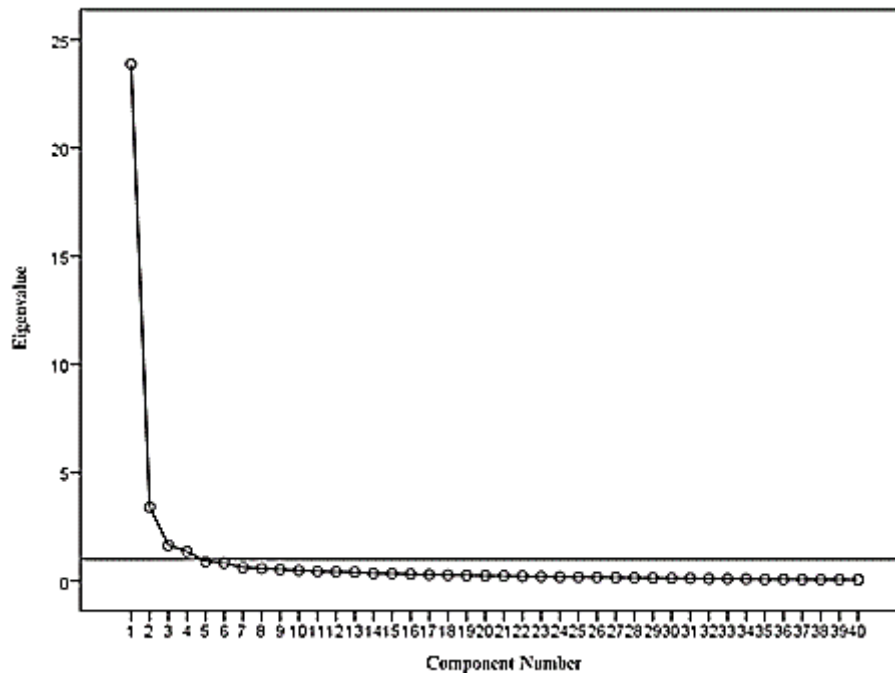


Figure 1. Scree Plot for the PLSQ data.

Source: own work.

Based on the results of Study 1, it was concluded that the PLSQ has four factors: friendliness, autonomy, feedback and justice. Therefore, it was decided to verify the existence of a four-factor structure using confirmatory factor analysis (CFA). Further studies were conducted with the aim of validating the questionnaire structure on a different sample of participants.

3.3. Confirmation of the internal structure of the Perceived Supervisor Leadership Style Questionnaire (PLSQ)

The next step in evaluating the structure of the questionnaire was the analysis of factorial validity. Confirmatory factor analysis (CFA) was selected as the method for assessing the questionnaire's factorial validity (Bollen, 1989; Konarski, 2009). The aim was to examine the fit of the four-factor model.

Study 3. The study included a nationwide sample of employees from public institutions (teachers, civil servants, nurses) as well as private companies (employees of IT corporations, technical mobile network companies, and security services). For the CFA, a sample of 827 employees from various organizations was collected (479 women and 438 men), aged 18-66 years ($M = 37.25$; $SD = 10.51$). In the conducted confirmatory factor analysis, parameters were estimated using the generalized least squares (GLS) method (Sagan, 2003). Model evaluation was based on the Hoelter's critical N statistic, the Root Mean Square Error of Approximation (RMSEA), the chi-square to degrees of freedom ratio (χ^2/df), and selected absolute fit indices, including the Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), and the Standardized Root Mean Square Residual (SRMR).

In the first step, the overall model fit was assessed. Subsequently, parameter estimates were calculated, including standardized factor loadings, which in the presented model were positive and statistically significant (Figure 2). Hoelter's critical N represents the largest sample size for which the model with a given CMIN value and degrees of freedom could be accepted. More specifically, at that sample size, there would be no grounds to reject the null hypothesis stating that there is no discrepancy between the data and the model. The calculated value for the model should not be lower than 200, whereas values below 75 indicate a very poor model fit (Kenny, 2015). RMSEA indicates how poorly the model fits the data, taking into account the number of parameters requiring estimation. The closer the value is to 0, the better the theoretical model fits the covariance matrix; acceptable values should not exceed 0.08 (Browne, Cudeck, 1993). Values above 0.08 suggest a serious approximation error with regard to generalizing the results to the population (Zakrzewska, 2004). Further indices included GFI and AGFI. The GFI index can be interpreted analogously to R^2 in multiple regression analysis (Tanaka, Huba, 1989). It is generally assumed that values equal to or greater than 0.90 indicate good fit, and such a model does not require modification (Zakrzewska, 2004).

The final index analyzed was SRMR, which indicates the level of residual error, the smaller the value, the lower the error. Ideally, this coefficient should not exceed 0.08 (Hu, Bentler, 1999). The approximation error for the model indicated satisfactory fit to the empirical data (RMSEA = 0.08). Hoelter's critical N (1983) was lower than the expected 200 (N = 175). The χ^2/df ratio was 7.45 ($p < 0.001$), also indicating satisfactory parameter estimation (Bedyńska, Książek, 2012), and the standardized root mean square residual did not exceed the suggested maximum value (SRMR = 0.03). The fit indices (GFI = 0.91; AGFI = 0.87) allowed the four-factor model to be evaluated as satisfactory. The obtained standardized factor loadings ranged from 0.87 to 0.93 ($p < 0.001$); they were positive and high (Figure 2), indicating the homogeneity of the subscales (Sagan, 2003).

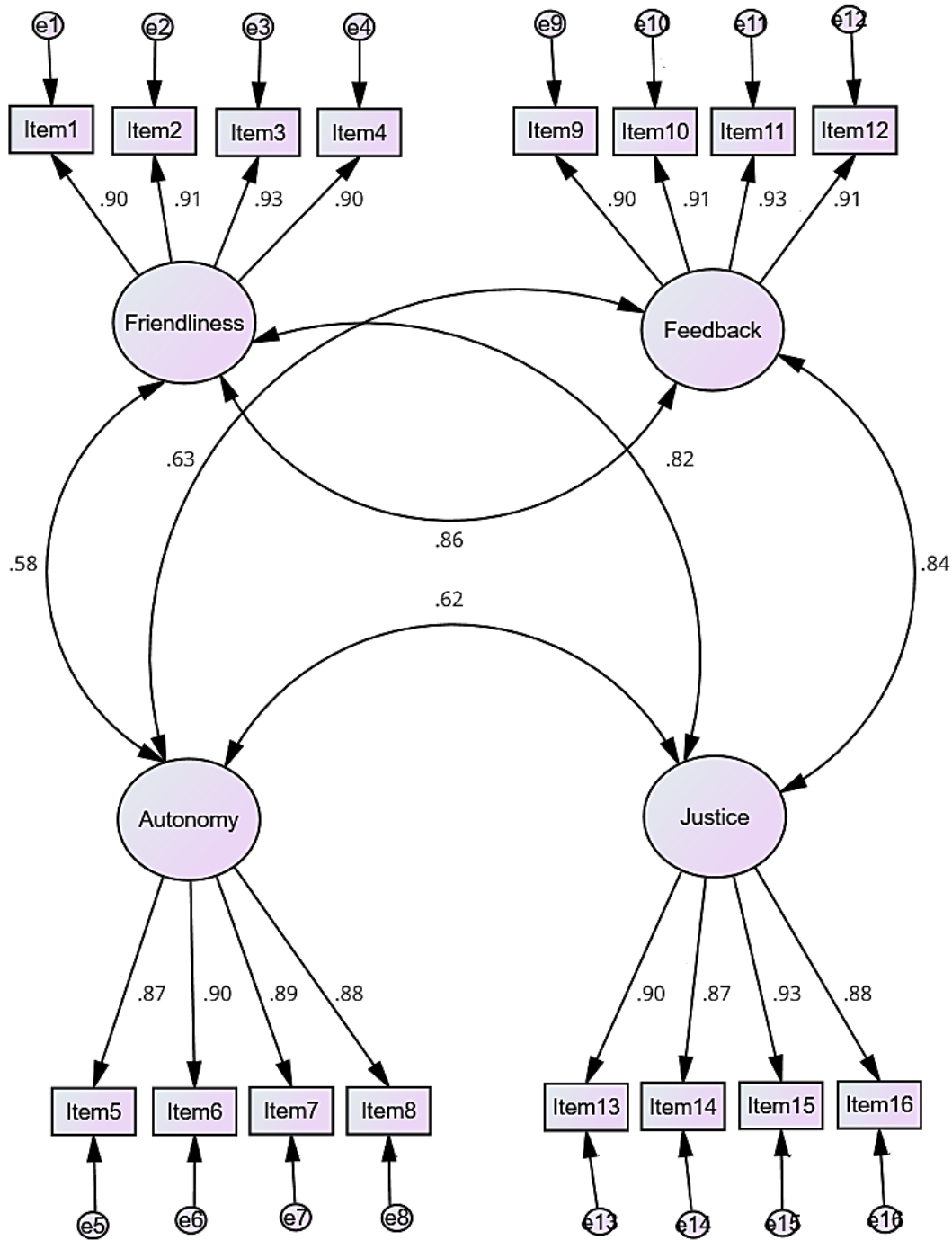


Figure 2. Confirmatory Factor Analysis of the Four-Factor Model for the PLSLQ.

Source: own work.

The results of the confirmatory factor analysis further confirm hypothesis H1 regarding the four-factor structure of the questionnaire. Table 4 presents the correlations between the individual components of the perceived supervisor leadership style. None of the dimensions correlates strongly with any other component, which indicates that we are dealing with four distinct components of the perceived supervisor leadership style.

Table 4.

Correlations Pearson's r coefficient between individual components of the perceived supervisor's management style (N = 827)

Variables	M	SD	Friendliness	Autonomy	Feedback	Justice
Friendliness	14,6	5,87	1,00	0,53*	0,77*	0,77*
Autonomy	17,0	5,65	0,53*	1,00	0,51*	0,55*
Feedback	14,2	5,75	0,77*	0,51*	1,00	0,76*
Justice	14,6	5,79	0,77*	0,55*	0,76*	1,00

Note. *p < 0,05.

Source: own work.

It can be concluded that The Perceived Supervisor Leadership Style Questionnaire measures four behaviors displayed by a supervisor: friendliness, autonomy, feedback, and justice. Each subscale contains four items. Each of these components is relatively orthogonal. The maximum possible score for each component is 24. The higher the score in each component, the more positively the employee perceives the manager's behavior.

3.4. Validity of the Perceived Supervisor Leadership Style Questionnaire (PSLSQ)

This study aimed to assess the validity of a new questionnaire, the Perceived Supervisor Leadership Style Questionnaire. We examined the validity of the PSLSQ by correlating scores on the PSLSQ with measures of job characteristics (WDQ, Hauk, 2014), Perceived Supervisor Support Scale (Wnuk, 2020), The satisfaction with job scale (Zalewska, 2003), and Big Five personality traits (TIPI-PL) adapted by Sorokowska, Słowińska, Zbieg and Sorokowski (2014).

Study 4. The study involved 100 employees, including 55 women and 45 men, with an average age of 39.62 (SD = 8.3), and years of experience ranging from 1 to 44 years (M = 17.19, SD = 8.31). The r-Person correlation coefficients between PSLSQ and the measures used to verify its construct validity are presented in Table 5.

Table 5.

Correlations Pearson's r coefficient between individual components of the perceived supervisor's management style and selected measures used to verify the theoretical validity (N = 100)

Variables	M	SD	Friendliness	Autonomy	Feedback	Justice
Feedback From Job	3,79	0,78	0,09	0,18	0,24*	0,18
Autonomy	3,94	0,93	0,01	0,33*	0,07	0,04
Feedback From Others	3,17	1,08	0,53*	0,43*	0,69*	0,59*
Interdependence	3,02	0,76	-0,08	-0,14	-0,13	-0,01
Interaction Outside Organization	3,01	0,93	0,17	0,23*	0,25*	0,24*
Social Support	3,50	1,15	0,20	0,25*	0,25*	0,26*
Job satisfaction	23,84	5,80	0,29*	0,34*	0,35*	0,35*
Benevolence and integrity	38,21	8,34	0,77*	0,60*	0,66*	0,75*
Abilities as well as competences	27,32	8,86	0,80*	0,60*	0,71*	0,76*
Extraversion	4,71	0,82	0,03	-0,06	0,06	0,01

Cont. table 5.

Agreeableness	5,66	1,08	-0,03	-0,01	0,05	0,05
Conscientiousness	5,93	1,09	-0,04	0,05	-0,01	-0,02
Emotional Stability	4,44	1,60	0,21*	0,26*	0,20*	0,24*
Openness	5,01	1,11	0,02	0,00	0,16	0,06

Note. * $p < 0,05$.

The obtained pattern of correlations provides support for hypotheses H3 and H4, confirming both the convergent and discriminant validity of the PLSQ. Convergent validity assumes that theoretically related constructs should demonstrate moderate or high positive correlations (Cohen, 1988; $r \geq 0.30$ - moderate effect; $r \geq 0.50$ - large effect). Scores on the perceived supervisor leadership style were positively correlated with selected job characteristics, with the greatest number of associations observed for the feedback dimension and the fewest for the friendliness dimension. Each dimension of the perceived supervisor leadership style showed moderate to high positive correlations with two components of the Trust in Supervisor scale: benevolence and integrity and abilities as well as competences, with correlation coefficients ranging from 0.60 to 0.80. Positive correlations were also obtained with job satisfaction scores, although these values ranged from 0.29 to 0.35. The observed relationships are consistent with theoretical assumptions and range from moderate to very high. This indicates good, and in some areas very good, convergent validity of the analyzed scales.

Discriminant validity, in turn, was examined between the dimensions of perceived supervisor leadership style and personality traits. Extraversion, agreeableness, conscientiousness, and openness showed no significant correlations with the climate dimensions (r values close to 0). This indicates that the questionnaire does not measure general personality traits, but rather specific perceptions of the work environment.

An exception was emotional stability, which demonstrated significant positive correlations with all four dimensions ($r = 0.20-0.26$). These relationships were weak to moderate in strength, suggesting that this trait facilitates a more positive perception of the work environment, but is not its dominant determinant. Individuals high in emotional stability are generally less likely to interpret situations as threatening, experience lower levels of anxiety and tension, are less prone to negative attributions of others' intentions, demonstrate greater stress resilience, and consequently may more often perceive relationships as benevolent, interpret communication as less critical, perceive supervisors' actions as less unfair, and cope better with the responsibility associated with autonomy.

These findings are consistent with theoretical assumptions (Zawadzki et al., 2007), according to which individuals with higher emotional stability are less likely to make negative attributions and display emotional adjustment and the ability to cope with stress without experiencing excessive tension or fear. At the same time, the moderate strength of the correlations confirms the distinctiveness of the organizational climate construct from dispositional personality traits. In this respect, discriminant validity was confirmed.

4. Conclusions and Discussion

The aim of the present study was to develop and psychometrically validate the Perceived Supervisor Leadership Style Questionnaire (PSLSQ), a tool designed to capture employees' perceptions of their direct supervisor's leadership behaviors. The results of the multi-stage validation procedure provided empirical support for the hypotheses formulated in this study. The assumed four-factor structure of the questionnaire was confirmed through both exploratory and confirmatory factor analyses (H1). The PSLSQ demonstrated high internal consistency and temporal stability (H2). Furthermore, the correlations with theoretically related constructs confirmed convergent validity, while low correlations with personality traits supported discriminant validity (H3 and H4).

The exploratory factor analysis conducted in the first stage of the study revealed a four-factor structure corresponding to the theoretically derived dimensions of leadership behavior: friendliness, autonomy support, feedback, and justice. These dimensions integrate relational and structural aspects of leadership, reflecting both the interpersonal quality of supervisor–employee interactions and the organizational mechanisms through which managerial influence is exercised. The identified factor structure was subsequently confirmed through confirmatory factor analysis, which demonstrated acceptable model fit indices and supported the factorial validity of the proposed measurement model (Hair et al., 2019).

From a theoretical perspective, the identified structure is consistent with broader conceptualizations of leadership that emphasize both relationship-oriented and task-oriented dimensions of managerial behavior (Bass, Bass, 2008; Yukl, 2013). The friendliness dimension reflects the relational component of leadership associated with interpersonal sensitivity, support, and the development of positive social exchange relationships between supervisors and employees. Such behaviors are consistent with theoretical perspectives emphasizing the role of leader–member exchange processes and relational leadership in shaping employee attitudes and motivation (Uhl-Bien, 2006).

In turn, the autonomy dimension captures elements related to empowerment and the delegation of responsibility, which are central to contemporary approaches to leadership that highlight the importance of employee self-regulation and intrinsic motivation (Deci, Ryan, 2000). Leadership behaviors that support autonomy have been shown to promote employee engagement, initiative, and psychological empowerment (Ahearne, Mathieu, Rapp, 2005). The feedback dimension reflects the informational and developmental function of leadership. Constructive feedback from supervisors plays a key role in employee learning, performance improvement, and professional development (London, 2003; Kluger, DeNisi, 1996). At the same time, the justice dimension captures the procedural and distributive fairness of managerial decision-making processes. Research in organizational justice consistently demonstrates that employees' perceptions of fairness are strongly associated with trust in

leadership, job satisfaction, and organizational commitment (Colquitt et al., 2001; Greenberg, 1990). The observed relationships between leadership behaviors and positive employee outcomes are also consistent with a broad body of research indicating that supportive and fair leadership practices contribute to higher levels of employee well-being, work engagement, and job satisfaction (Judge, Piccolo, 2004; Skakon et al., 2010). Leadership behaviors characterized by openness, support, and fairness are particularly important in fostering interpersonal trust between supervisors and employees (Dirks, Ferrin, 2002).

Despite the promising results, several limitations of the present research should be acknowledged. First, the study relied exclusively on self-report data collected from employees, which raises the possibility of common method variance (Podsakoff et al., 2003). Although this approach is appropriate when measuring subjective perceptions of leadership behaviors, future research would benefit from the inclusion of multi-source data, such as supervisor self-assessments, peer evaluations, or objective organizational indicators.

Second, although relatively large samples were used at different stages of the validation process, the participants were drawn primarily from Polish organizational contexts. Consequently, the generalizability of the findings to other cultural and institutional environments remains limited. Leadership perceptions may be influenced by broader cultural norms regarding authority, hierarchy, and interpersonal relationships (House et al., 2004). Therefore, future studies should aim to conduct cross-cultural validations of the PLSLQ, examining whether the proposed factor structure remains stable across different national and organizational contexts.

Third, the present study relied on a cross-sectional research design, which limits the ability to draw causal conclusions regarding the relationships between perceived leadership style and employee outcomes. Longitudinal research designs would allow researchers to examine how perceptions of supervisory behaviors develop over time and how they influence longer-term outcomes such as employee engagement, organizational commitment, and job performance (Antonakis, Bendahan, Jacquart, Lalive, 2010).

Future research should therefore extend the present findings in several directions. First, further studies could focus on standardizing the PLSLQ on larger and more representative samples, which would enable the development of normative data and strengthen the questionnaires applicability in organizational diagnostics. Second, future research should examine the predictive validity of the questionnaire, particularly in relation to key organizational outcomes such as employee engagement, psychological safety, job performance, and turnover intentions (Edmondson, 1999; Bakker, Demerouti, 2008). Third, the PLSLQ could be used in studies examining mediating and moderating mechanisms linking leadership behaviors with employee well-being and organizational effectiveness.

In conclusion, the results of the present study suggest that the Perceived Supervisor Leadership Style Questionnaire represents a theoretically grounded and psychometrically sound questionnaire for assessing employees' perceptions of leadership behaviors. By integrating

relational and structural dimensions of leadership within a single measurement framework, the PLSQ contributes to the growing body of research emphasizing the importance of employees' subjective perceptions of managerial practices. Further research is recommended to expand the empirical evidence supporting the questionnaire and to explore its potential applications in diverse organizational and cultural contexts.

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Appendix 1

Polish version PLSLQ

Kwestionariusz Spostrzeganego Stylu Kierowania Przełożonego (KSSKP)

Proszę, przeczytaj uważnie podane niżej stwierdzenia opisujące pewne zachowania, które może przejawiać Twój bezpośredni przełożony. Zaznacz, w jakim stopniu zgadzasz się z każdym z tych stwierdzeń. Proszę ustosunkuj się do wszystkich zdań, nawet jeżeli nie jesteś pewny odpowiedzi. Nie ma tu dobrych, ani złych odpowiedzi, najważniejsze jest Twoje zdanie, dotyczące tego jak postrzegasz zachowania swojego bezpośredniego przełożonego.

Odpowiadając wykorzystaj poniższą skalę:

Od 1 - prawie nigdy, do 6 - bardzo często (bardzo często oznacza tak często, jak tylko jest to możliwe)

Mój bezpośredni przełożony:						
1. Reaguje na potrzeby pracowników	1	2	3	4	5	6
2. Wyzwała pozytywne nastawienie w pracownikach	1	2	3	4	5	6
3. Słucha swoich pracowników	1	2	3	4	5	6
4. Okazuje szczerze zainteresowanie osobą i jej rolą w organizacji	1	2	3	4	5	6
5. Umożliwia samodzielne planowanie pracy	1	2	3	4	5	6
6. Umożliwia samodzielną organizację czasu pracy	1	2	3	4	5	6
7. Pozwala pracownikowi na swobodę wyboru strategii wykonywania danego zadania	1	2	3	4	5	6
8. Pozwala na niezależność w tym, jak pracownik wykonuje swoją pracę	1	2	3	4	5	6
9. Informuje pracowników na temat jakości wykonania danego zadania	1	2	3	4	5	6
10. Informuje o postępach w realizacji celów	1	2	3	4	5	6
11. Przekazuje informację zwrotną, która jest jasna i obiektywna	1	2	3	4	5	6
12. Informuje o spełnieniu przez pracownika stawianych mu wymagań, osiągniętych wyników i sposobu realizacji zadań	1	2	3	4	5	6
13. Sprawiedliwie wyraża uznanie	1	2	3	4	5	6
14. Przestrzega zasad dotyczących nagradzania i promowania pracowników	1	2	3	4	5	6
15. Sprawiedliwie ocenia wysiłek pracowników w wykonywaną pracę	1	2	3	4	5	6
16. Opiera się na rzetelnych, znanych kryteriach oceny zadania	1	2	3	4	5	6

Klucz (numery twierdzeń wchodzących w skład poszczególnych komponentów):

Życzliwość – 1,2,3,4

Autonomia – 5,6,7,8

Informacja zwrotna – 9,10,11,12

Sprawiedliwość – 13,14,15,16

Appendix 2

English version PLSLQ (not used for psychometric validation)

The Perceived Supervisor Leadership Style Questionnaire (PSLSQ)

Please carefully read the statements below describing certain behaviors your direct supervisor may exhibit. Indicate the extent to which you agree with each statement. Please respond to each statement, even if you are unsure. There are no right or wrong answers; the most important thing is your opinion on how you perceive your direct supervisor's behavior.

Please indicate the extent to which you engage in the following behaviours using the following scale: 1 = hardly Ever, to 6 = very often (very often means as often as possible)

My direct supervisor:						
1. Responds to employees' needs.	1	2	3	4	5	6
2. Fosters a positive attitude among employees.	1	2	3	4	5	6
3. Listens to employees.	1	2	3	4	5	6
4. Shows genuine interest in the employee and their role in the organization.	1	2	3	4	5	6
5. Enables employees to plan their work independently.	1	2	3	4	5	6
6. Allows employees to organize their working time independently.	1	2	3	4	5	6
7. Allows employees freedom to choose strategies for completing tasks.	1	2	3	4	5	6
8. Allows independence in how employees perform their work.	1	2	3	4	5	6
9. Informs employees about the quality of task performance	1	2	3	4	5	6
10. Provides information on progress toward goal achievement.	1	2	3	4	5	6
11. Gives feedback that is clear and objective.	1	2	3	4	5	6
12. Informs employees whether they meet expectations, about their results, and how they carry out their tasks.	1	2	3	4	5	6
13. Expresses recognition in a fair manner.	1	2	3	4	5	6
14. Adheres to established rules for rewarding and promoting employees.	1	2	3	4	5	6
15. Evaluates employees' work effort justice.	1	2	3	4	5	6
16. Bases task evaluation on reliable and transparent criteria.	1	2	3	4	5	6

Note (numbers of the statements included in the individual components):

Friendliness – 1,2,3,4

Autonomy – 5,6,7,8

Feedback – 9,10,11,12

Justice – 13,14,15,16