



Development and preliminary psychometric evaluation of three context-specific workplace scales among Serbian community pharmacists

Razvoj i preliminarna psihometrijska procena tri kontekstualno specifične skale radnog okruženja među farmaceutima u javnim apotekama u Srbiji

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Abstract

Background/Aim. Pharmaceutical practice requires not only technical expertise but also interpersonal, motivational, and leadership-related competencies. However, there is a lack of context-specific instruments for assessing these constructs in pharmacy practice. The aim of this study was to develop and conduct an initial psychometric evaluation of the Workplace Personality Scale (WPS), the Achievement Motivation Scale (AMS), and the Agile Leadership Scale (ALS) among Serbian community pharmacists. **Methods.** Items were developed through a literature review and expert input, followed by content review and pilot testing. The final instruments were administered to 633 pharmacists. Internal consistency was evaluated using Cronbach α coefficient, while exploratory factor analysis (EFA) was conducted to examine the internal structure. Correlation analyses and group comparisons were performed using appropriate statistical tests. **Results.** All scales demonstrated satisfactory to high internal consistency ($\alpha = 0.855–0.947$). EFA revealed a

four-factor structure for the WPS and predominantly unidimensional structures for AMS and ALS. Participants reported relatively high workplace-related behavioral tendencies and achievement motivation, while perceptions of supervisory support and adaptive leadership behaviors were more moderate. Positive to strong associations were observed among the scales ($r = 0.495–0.711$). Differences were found according to gender, age, and professional experience, while other demographic variables showed no consistent associations. **Conclusion.** The study provides preliminary evidence on the internal structure and reliability of three context-specific instruments developed for Serbian community pharmacists. Further validation is required, including confirmatory factor analysis, test-retest reliability, and assessment of external validity, before broader application.

Keywords:

data interpretation, statistical; motivation; pharmacy; pharmacists; serbia; surveys and questionnaires; workplace.

Apstrakt

Uvod/Cilj. Farmaceutska praksa zahteva ne samo tehničku ekspertizu, već i interpersonalne, motivacione i liderske kompetencije. Međutim, postoji nedostatak kontekst-specifičnih instrumenata za procenu ovih osobina u farmaceutskoj praksi. Cilj rada bio je razvoj i inicijalna psihometrijska evaluacija Skale ličnosti na radnom mestu (*Workplace Personality Scale* – WPS), Skale motivacije za postignuća (*Achievement Motivation Scale* – AMS) i Skale agilnog liderstva (*Agile Leadership Scale* – ALS) kod farmaceuta zaposlenih u javnim apotekama u Srbiji. **Metode.** Stavke su razvijene na osnovu pregleda literature i ekspertске procene, nakon čega su sprovedeni pregled sadržaja i pilot testiranje. Konačni instrumenti primenjeni su na uzorku od 633 farmaceuta. Interna

konzistentnost procenjena je pomoću Cronbach-ovog α koeficijenta, dok je za ispitivanje interne strukture sprovedena eksploratorna faktorska analiza (EFA). Analize korelacije i poređenja između grupa sprovedene su primenom odgovarajućih statističkih testova. **Rezultati.** Sve skale pokazale su zadovoljavajuću do visoku internu konzistentnost ($\alpha = 0.855–0.947$). EFA je ukazala na četvorofaktorsku strukturu WPS i pretežno jednodimenzionalne strukture za AMS i ALS. Učesnici su prijavili relativno učestale biheioralne tendencije povezane sa radnim mestom i motivaciju za postignućem, dok su percepcije podrške supervizora i adaptivnog liderskog ponašanja bile ređe. Primećene su pozitivne do jake povezanosti između skala ($r = 0,495–0,711$). Utvrđene su razlike u odnosu na pol, starost i profesionalno iskustvo, dok druge demografske varijable

nisu pokazale konzistentne povezanosti. **Zaključak.** Studija pruža preliminarne dokaze o unutrašnjoj strukturi i pouzdanosti tri kontekst-specifična instrumenta razvijena za farmaceute zaposlene u javnim apotekama u Srbiji. Pre njihove šire primene potrebna je dalja validacija, uključujući konfirmatornu faktorsku analizu,

procenu pouzdanosti metodom test-retest i procenu spoljašnje validnosti.

Ključne reči:

statistička analiza podataka; motivacija; apoteka; farmaceuti; srbija; ankete i upitnici; radno mesto.

Introduction

Pharmaceutical practice is a demanding and dynamic profession that requires not only technical expertise but also strong interpersonal, motivational, and leadership skills to ensure high-quality patient care and organizational effectiveness. Previous research has examined various psychological and motivational factors in healthcare professionals, highlighting the influence of personality traits, achievement motivation, and leadership on work performance and professional development¹⁻⁵.

However, most studies have examined these dimensions in isolation, and few instruments specifically measure these phenomena in pharmacy practice, particularly in community and industrial pharmacy settings^{6,7}. Existing tools are either too general or adapted from other healthcare or organizational contexts, limiting their relevance for evaluating pharmacists' professional behavior, motivation, and perceptions of leadership⁸⁻¹⁰.

The relationship between workplace personality, achievement motivation, and perceived leadership can be theoretically understood through shared work-related behavioral and motivational processes. Employees with more positive work-related behavioral tendencies may be more likely to demonstrate higher levels of achievement motivation, as both constructs reflect goal-directed engagement, responsibility, and proactive work behavior. In addition, perceived leadership support may further reinforce motivational processes by shaping the work environment, enhancing autonomy, and facilitating adaptive responses to workplace demands. From this perspective, these constructs are expected to be interrelated as part of a broader pattern of work-related functioning within healthcare settings. However, the present study adopts an exploratory approach, without testing predefined directional hypotheses.

To address this gap, the present study has two main objectives. First, it aims to develop and conduct a preliminary psychometric evaluation of three novel scales specifically adapted to the Serbian pharmaceutical context: the Workplace Personality Scale (WPS), the Achievement Motivation Scale (AMS), and the Agile Leadership Scale (ALS). These instruments are conceptualized as context-specific measurement tools capturing work-related behavioral tendencies, motivational orientations, and perceived leadership support within pharmacy practice, rather than as direct operationalizations of established global trait models. The WPS was not developed as an alternative to established personality models such as the Five-Factor Model (FFM)¹¹ or the honesty-humility (H), emotionality (E), extraversion (X), agreeableness (A), conscientiousness (C), and openness to experience (O) –

HEXACO model¹². Rather, it was designed to assess context-specific behavioral and attitudinal tendencies expressed in pharmacy practice, including responsibility, cooperation, work engagement, and professional orientation. Consequently, the construct labeled workplace personality should be understood as a contextualized pattern of work-related behavioral dispositions rather than a measure of stable global personality traits. The AMS was informed by the broader achievement motivation tradition, drawing conceptually on theories that emphasize goal striving, persistence, personal responsibility, and self-directed effort in professional contexts¹³⁻¹⁷. This tradition encompasses several theoretical perspectives, including need-based, expectancy-value, and self-determination approaches to achievement behavior. Rather than attempting to distinguish between specific theoretical components such as intrinsic motivation, self-efficacy, or goal orientation, the present study adopts a pragmatic and context-specific approach, conceptualizing achievement motivation as a general tendency toward achievement-oriented behavior in pharmacy practice. The ALS was developed to assess employees' perceptions of supervisory behaviors characterized by adaptability, support, responsiveness, and facilitation of work processes in dynamic healthcare environments. The construct is conceptually related to established leadership frameworks, including perceived supervisor support¹⁸, transformational leadership¹⁹, and servant leadership²⁰. However, the term agile leadership is used in this study to emphasize leadership behaviors that facilitate adaptation to changing workplace demands and support collaborative problem-solving within pharmacy teams. It is acknowledged that conceptual boundaries between these constructs remain subject to ongoing theoretical discussion. In this study, agile leadership is conceptualized as perceived adaptive supervisory support (as measured by the ALS), including flexibility, communication, support, and facilitation of work processes in pharmacy teams. The term 'agile leadership' is used as a pragmatic descriptor rather than a distinct theoretical leadership model. Second, the study seeks to examine the relationships among personal characteristics, achievement motivation, and perceptions of supervisory support. Rather than testing causal relationships or predictive models, it explores preliminary associations among these constructs, offering a contextualized understanding of the factors that support professional development, effective management, and employee engagement. These constructs are not intended to represent distinct classical psychological taxonomies but context-specific workplace-relevant composites.

By integrating scale development with empirical investigation, this study provides initial evidence on the structure and relationships of workplace personality, achievement motivation, and perceived agile leadership within

the Serbian pharmacy context. The focus is on exploratory rather than confirmatory conclusions. The developed instruments represent early-stage, context-specific measures that require further validation, including confirmatory factor analysis (CFA), test-retest reliability, and external criterion validation in future research. All three instruments should be interpreted as context-specific behavioral and perceptual measures rather than operationalizations of established global trait or leadership taxonomies.

Methods

Ethical approval

The study protocol was reviewed and approved by the Ethics Committee of the Pharmaceutical Chamber of Serbia (No. 30/1–4, from February 7, 2025). All participants provided informed consent prior to participation. Data were collected anonymously and treated confidentially in accordance with ethical guidelines for human research.

Scale development and preliminary psychometric evaluation

The study involved developing and preliminarily psychometrically evaluating three novel scales designed specifically for the Serbian pharmaceutical context: the WPS, AMS, and ALS. The scale development process comprised five sequential phases. First, during item generation, items for each scale were generated based on an extensive review of the literature on workplace personality traits^{21–27}, achievement motivation^{28–31}, and agile leadership^{32–35}, combined with qualitative input from practicing pharmacists. These items were drafted to reflect behaviors and attitudes relevant to community pharmacy settings as perceived within this specific occupational context. Second, content validation was conducted by a panel of six experts, including one psychologist, one human resources professional with expertise in organizational behavior, one faculty professor from the School of Pharmacy, and three practicing pharmacists. The panel independently reviewed the item pool to assess relevance, clarity, and comprehensiveness, resulting in minor wording revisions without item additions or deletions. Content validity relied on qualitative expert evaluation, as quantitative indices such as the Content Validity Index (CVI) were not calculated in this study and remain recommended for future validation research. Third, during linguistic and contextual development, items were developed in Serbian within the target occupational context, ensuring linguistic and conceptual appropriateness for the Serbian pharmacy setting. All three scales were created and contextually and linguistically adapted according to established guidelines for scale development and adaptation^{36, 37}. Fourth, pilot testing was conducted, with the preliminary scales administered to a small sample of pharmacists ($n = 10$) to assess item clarity, comprehension, and feasibility. This phase was limited to

face validity assessment and was not used for psychometric analysis. Minor revisions were made based on participant feedback. Finally, reliability assessment involved evaluating the internal consistency of each scale using Cronbach α . Exploratory factor analysis (EFA) was performed to examine the underlying factor structure as an initial exploratory step in scale development rather than confirmatory validation. The present study represents an initial stage of scale development based on EFA, while CFA was not conducted and is recommended for future validation studies using independent samples.

Participants and sample size

The final survey was administered to a sample of 633 pharmacists working in community pharmacy settings in Serbia. Participants were recruited through professional associations and workplace contacts. Inclusion criteria required participants to be licensed pharmacists actively working in a professional pharmacy setting.

Sample size was determined to ensure adequate power for both factor analysis and correlational studies, following standard recommendations for scale validation (at least 5–10 participants *per item*) and population-based sampling considerations.

This study represents a cross-sectional convenience sample and is not intended for population-level generalization.

Instruments

Participants completed three measurement instruments. First, the WPS assessed work-related behavioral tendencies and attitudes in pharmacy practice. Items reflected behavioral and attitudinal patterns associated with work engagement, responsibility, cooperation, and task orientation in the workplace context. The scale does not operationalize established personality taxonomies, but rather reflects context-specific work-related behavioral patterns. Here, the term ‘workplace personality’ is used as a contextual label reflecting patterns of work-related behavioral tendencies rather than stable personality traits as conceptualized in major trait theories. Second, the AMS assessed work-related motivational orientation in pharmacy practice, including goal striving, persistence, self-directed effort, and responsibility for achieving professional outcomes. The scale was developed based on established theoretical frameworks of achievement motivation, encompassing goal-directed behavior and self-regulatory processes in professional settings. Finally, the ALS assessed perceptions of supervisory behaviors related to support, adaptability, communication, and facilitation of work processes in pharmacy teams. In this study, this construct is conceptualized as perceived adaptive supervisory support rather than a distinct theoretical leadership framework. The scale reflects perceived adaptive and supportive leadership in dynamic healthcare environments and overlaps conceptually with broader constructs, such as perceived supervisor support

and transformational leadership. All scales used a 5-point Likert scale (1 – Never, 5 – Always). Mean scores were computed for each subscale and the overall scale to allow for subsequent analyses. The full versions of these instruments are provided in Supplementary Table 1.

Table 1**Demographic characteristics of the sample**

Variable	Values
Gender	
female	579 (91.5)
male	54 (8.5)
Marital status	
single	409 (64.6)
married	139 (22.0)
divorced	79 (12.5)
widowed	6 (0.9)
Educational level	
pharmacy graduate	525 (82.9)
specialist studies	103 (16.3)
PhD	5 (0.8)
Age, years	46.58 ± 10.45
Experience, years	19.02 ± 9.86

PhD – Doctor of Philosophy.

All values are given as numbers (percentages) or mean ± standard deviation.

Statistical analysis

Data were analyzed using SPSS (IBM SPSS Statistics 31.0.2.0). Descriptive statistics were performed [mean ± standard deviation (SD), range] for all items and scales. Reliability analysis was conducted using Cronbach α for internal consistency. EFA was conducted using principal axis factoring with varimax rotation to examine the underlying factor structure. Correlation analysis was conducted to examine associations among workplace-related constructs. For the comparative analysis, differences in the WPS, AMS, and ALS scores across demographic variables (gender, marital status, age, work experience, and educational level) were assessed using statistical tests appropriate to the data distribution. Normality of each variable was examined, and depending on the distribution, independent *t*-tests or one-way analysis of variance – ANOVA were used for normally distributed data, while the Mann-Whitney *U* or Kruskal-Wallis *H* tests were applied for non-normally distributed data. Given observed non-normality, non-parametric tests were ultimately applied for all comparative analyses.

Results*Participant characteristics*

The final sample consisted of 633 pharmacists working in community pharmacies. The majority of participants were female (91.5%, *n* = 579) and single (64.6%, *n* = 409). The participants' educational levels varied, with most holding a pharmacy degree (82.9%, *n* = 525), followed by specialist studies (16.3%, *n* = 103) and Doctor of Philosophy (PhD) degrees (0.8%, *n* = 5). Participants' ages ranged from 25 to 77

years (mean = 46.58, SD = 10.45), with work experience ranging from 1 to 44 years (mean = 19.02, SD = 9.86) (Table 1).

For comparative analyses, age was categorized into five groups: group 1 (25–29 years), group 2 (30–40 years), group 3 (41–50 years), group 4 (51–60 years), and group 5 (61–77 years). Years of professional experience were similarly categorized: group 1 (1–5 years), group 2 (6–10 years), group 3 (11–20 years), group 4 (21–30 years), and group 5 (31–44 years).

Descriptive statistics of scale items

Descriptive statistics for all items from the three newly developed scales – the WPS, AMS, and ALS (reflecting perceived adaptive supervisory support) – were calculated. Means and SDs were obtained for each item, with responses scored on a 5-point Likert scale (1 – Never, 5 – Always).

For the WPS (15 items), participants reported generally high self-ratings of work-related behavioral tendencies related to collaboration, responsibility, and motivation, with mean scores ranging from 3.50 to 4.80 (SD = 0.46–0.90). The highest-rated items were those reflecting responsibility for work and willingness to learn new techniques.

For the AMS (7 items), participants indicated strong achievement motivation in professional practice, with mean scores ranging from 4.00 to 4.61 (SD = 0.55–0.95). Participants particularly endorsed items reflecting effort to achieve the best results and belief in their ability to succeed.

For the ALS (7 items), ratings of supervisors' perceived adaptive supervisory support behaviors were moderate, with mean scores ranging from 3.21 to 3.50 (SD = 1.11–1.33). The highest-rated behaviors included support for professional development and flexibility in adapting to new challenges.

Scale-level descriptive statistics

Means and SDs were also calculated at the scale level by averaging responses across all items within each scale. Participants demonstrated high scores on the WPS and AMS, while the ALS ratings were more moderate. This pattern suggests that, in general, pharmacists perceive themselves as motivated and responsible professionals, whereas their evaluation of leadership behaviors is more variable.

The range indicates the minimum and maximum possible scores for each item (1 – Lowest, 5 – Highest). Means and SDs were calculated across all items within each scale.

Detailed item-level descriptive statistics are provided in Supplementary Table 2.

Scale development and linguistic/contextual adaptation

All three scales (WPS, AMS, and ALS) were developed based on a thorough review of relevant literature and theoretical frameworks. Items were generated to capture all relevant dimensions of each construct, and expert review ensured clarity, conceptual relevance, and coverage of the constructs. The scales were subsequently developed directly within the Serbian-language healthcare context, with

linguistic refinement to ensure clarity and comprehensibility for the target population. Although the scales were originally developed in Serbian, back-translation procedures were used to support potential future cross-cultural application rather than to establish cross-cultural equivalence in the current study. Pilot testing with a small sample of Serbian community pharmacists ($n = 10$) confirmed comprehension and relevance of all items. The final versions retained the original item structure and response format, ensuring both conceptual fidelity and cultural appropriateness.

Reliability and item analysis

Internal consistency of the three scales was examined using Cronbach α , and descriptive statistics were computed for each scale (Table 2, Supplementary Table 2).

All three scales demonstrated high internal consistency. The item-total correlations were satisfactory across all scales, indicating that each item contributed appropriately to the total scale score. Inter-item correlations were moderate to high, suggesting coherent scale structures without redundancy. Notably, no item deletion substantially increased Cronbach α , confirming that all items were retained in the final scales.

Descriptive statistics showed that respondents generally rated high on the WPS, particularly on items related to task efficiency and responsibility. The AMS revealed a strong orientation toward personal goal setting and professional improvement, while the ALS reflected moderate perceptions

of supervisor support and leadership flexibility in the workplace.

Overall, the adapted scales demonstrated strong reliability and satisfactory preliminary psychometric properties, supporting their potential usefulness for research on Serbian community pharmacists.

Inter-scale correlations were examined as preliminary evidence regarding associations among the measured constructs. Pearson correlations revealed that all three scales are positively related ($p < 0.001$), indicating that workplace personality, achievement motivation, and agile leadership are associated constructs in the context of Serbian community pharmacists. The strongest correlation was observed between the WPS and AMS ($r = 0.711$), suggesting that conscientiousness, responsibility, and efficiency are closely linked to professional motivation. The ALS correlated moderately with both the WPS ($r = 0.495$) and AMS ($r = 0.538$), demonstrating that leadership behaviors are related to, but distinct from, personal traits and motivation. These results provide preliminary evidence of relationships among the constructs, but do not support conclusions regarding full construct validity.

Exploratory factor analysis results

EFA was conducted for all three scales. The results indicated adequate factorability and interpretable factor solutions for each instrument (Tables 3–5). The WPS

Table 2

Descriptive statistics and reliability of the adapted scales

Scale	Number of items	Mean $\pm$ SD	Cronbach α	Cronbach α (standardized)
Workplace Personality Scale	15	66.94 $\pm$ 5.89	0.855	0.870
Achievement Motivation Scale	7	30.48 $\pm$ 4.02	0.878	0.883
Agile Leadership Scale	7	23.82 $\pm$ 7.47	0.947	0.949

SD – standard deviation.

Table 3

Rotated factor loadings and communalities – Workplace Personality Scale

Item	F1	F2	F3	F4	h^2
I am satisfied with my work when I can help users with their problems	0.566	0.277	0.175	-	0.428
I enjoy collaborating with colleagues to solve problems	0.563	0.160	0.101	-	0.353
I help new colleagues adapt to the work environment	0.548	-	0.346	0.324	0.525
I like to take responsibility for my work	0.494	0.167	0.204	0.281	0.392
I try to maintain a positive attitude with users, even in stressful situations	0.472	0.292	0.365	-	0.443
I feel calm even when I have many tasks to complete	0.465	0.302	-	0.114	0.326
I usually find it easy to adapt to new situations	0.447	0.439	-	0.117	0.415
I strive to develop my organizational skills	0.152	0.888	0.205	-	0.854
I feel motivated to always provide the best service to users	0.337	0.634	0.108	-	0.530
I understand how my behavior affects the workplace atmosphere	0.210	0.402	0.213	0.230	0.303
I am willing to learn new techniques and improve my skills	0.337	0.369	0.333	-	0.366
I enjoy completing tasks efficiently and accurately	-	0.306	0.733	-	0.638
I strive to always make accurate and fair decisions	0.173	-	0.596	0.135	0.405
I believe that teamwork is essential for achieving good results	0.426	0.186	0.493	0.221	0.508
I take responsibility for all mistakes that occur at work	-	-	-	0.783	0.636

Note: Extraction method – principal axis factoring. Rotation method – Varimax with Kaiser normalization. Factor loadings ≥ 0.30 are shown. h^2 – extracted communalities. Kaiser–Meyer–Olkin = 0.846; Bartlett’s test of sphericity: $\chi^2(105) = 3,238.80$, $p < 0.001$. Total variance explained by the four-factor solution = 47.47%.

Table 4

Factor loadings and communalities – Achievement Motivation Scale

Item	F1	h^2
I continue working toward goals even when facing difficulties or uncertainty	0.800	0.641
I am always motivated to improve my knowledge and skills in pharmaceutical practice	0.768	0.590
I am willing to take responsibility for achieving important results in my work	0.743	0.553
I am motivated to contribute to improving pharmaceutical services and work quality	0.730	0.533
I regularly set challenging goals that I aim to accomplish in pharmaceutical practice	0.710	0.504
I believe in my ability to succeed in the tasks assigned to me	0.666	0.444
I invest maximum effort to achieve the best possible results in my work	0.621	0.386

Note: Extraction method – principal axis factoring. Rotation not applicable. Factor loadings ≥ 0.30 are shown. h^2 – extracted communalities. Kaiser–Meyer–Olkin = 0.848; Bartlett’s test of sphericity: $\chi^2(21) = 2,181.93$, $p < 0.001$. Total variance explained = 52.14%.

Table 5

Factor loadings and communalities – Agile Leadership Scale

Item	F1	h^2
My supervisor effectively resolves conflicts within the team	0.922	0.850
My supervisor demonstrates flexibility in adapting to new challenges in pharmaceutical practice	0.887	0.787
My supervisor has a clear vision for the development of pharmaceutical practice and communicates it regularly	0.879	0.773
My supervisor makes an effort to understand the personal and professional challenges I face	0.876	0.767
My supervisor encourages me to take initiative and strive for better results	0.865	0.748
My supervisor clearly defines work tasks and priorities	0.843	0.710
My supervisor supports my development through additional training and education	0.691	0.478

Note: Extraction method – principal axis factoring. Rotation not applicable. Factor loadings ≥ 0.30 are shown. h^2 – extracted communalities. Kaiser–Meyer–Olkin = 0.926; Bartlett’s test of sphericity: $\chi^2(21) = 4,270.88$, $p < 0.001$. Total variance explained = 73.04%.

demonstrated adequate factorability, as indicated by a Kaiser–Meyer–Olkin (KMO) measure of 0.846 and a significant Bartlett’s test of sphericity [$\chi^2(105) = 3,238.80$, $p < 0.001$]. The solution revealed a four-factor structure explaining 47.47% of the total variance. This empirical structure reflects item clustering in the sample and is not intended to represent a predefined theoretical structure. Factor 1 reflected general positive work attitudes and adaptive functioning; Factor 2 reflected organizational skills and motivation; Factor 3 reflected task efficiency, accuracy, and decision-making; and Factor 4 reflected responsibility for mistakes, with some items showing cross-loadings and partial overlap between dimensions.

The AMS demonstrated adequate factorability, as indicated by a KMO measure of 0.848 and a significant Bartlett’s test of sphericity [$\chi^2(21) = 2,181.93$, $p < 0.001$]. The analysis revealed a unidimensional structure, with all seven items loading on a single factor. This factor accounted for 52.14% of the total variance. Factor loadings ranged from 0.621 to 0.800, indicating that all items contributed substantially to the overall construct of achievement motivation. This structure reflects empirical item aggregation rather than confirmation of a predefined theoretical model. Communalities ranged from 0.386 to 0.641, supporting the adequacy of the factor solution. As only one factor was extracted, rotation was not applicable.

The ALS showed a high level of factorability, as evidenced by a KMO measure of 0.926 and a significant Bartlett’s test of sphericity [$\chi^2(21) = 4,270.88$, $p < 0.001$]. The analysis revealed a unidimensional structure, with all seven items loading on a single factor. This factor explained

73.04% of the total variance. Factor loadings ranged from 0.691 to 0.922, indicating strong contributions of each item to the underlying construct of agile leadership. Communalities ranged from 0.478 to 0.850, supporting the adequacy of the factor solution. Since only one factor was extracted, rotation was not applicable. This structure reflects empirical item aggregation rather than a distinct theoretical leadership framework.

Comparative analyses across demographic groups

The distribution of scores for all three scales was examined across demographic variables, including gender, age group, marital status, years of experience, and educational level. Normality was assessed using both the Kolmogorov–Smirnov and Shapiro–Wilk tests. Results indicated that, for nearly all groups and scales, the Shapiro–Wilk test was significant ($p < 0.05$), suggesting that the assumption of normality was violated. This pattern was consistent across gender, age, marital status, experience, and educational level. It should be noted that very small subgroups, such as participants with a PhD ($n = 5$) or widowed participants ($n = 6$), further limit the reliability of normality testing in these specific groups. Due to the non-normal distribution of the scale scores across demographic groups, non-parametric methods are required for subsequent comparative analyses. Specifically, the Mann–Whitney U test was applied to compare two groups (e.g., gender), whereas the Kruskal–Wallis H test was applied to compare more than two groups (e.g., age, marital status, experience, educational level). These analyses allowed examination of potential

differences in workplace personality, achievement motivation, and agile leadership while accounting for the distributional characteristics of the data.

Nonparametric analyses were conducted to examine potential differences in the three scales based on gender, using the Mann-Whitney U test due to the non-normal distribution of all dependent variables.

For the WPS, no significant difference was observed between female ($n = 579$) and male ($n = 54$) participants ($U = 17,573.50$, $Z = 1.516$, $p = 0.129$), indicating similar scores on the WPS across genders. For the AMS, a significant difference was found between genders ($U = 18,793.50$, $Z = 2.474$, $p = 0.013$), with males reporting higher AMS scores (median = 4.59) than females (median = 4.38). For ALS, gender differences were also significant ($U = 19,455.50$, $Z = 2.978$, $p = 0.003$), with males reporting higher ALS scores (median = 3.80) compared to females (median = 3.39).

These results should be interpreted cautiously given the gender imbalance in the sample and the exploratory nature of the analyses. Nonparametric analyses using the Kruskal-Wallis H test were conducted to examine potential differences in the three scales across marital status categories (single, married, divorced, widowed) due to the non-normal distribution of the dependent variables.

For the WPS, a statistically significant difference was observed across marital status groups ($H = 10.392$, $df = 3$, $p = 0.016$). However, pairwise comparisons with Bonferroni correction did not reveal statistically significant differences between individual groups (all adjusted p -values > 0.05), including the comparison between single and divorced participants (adjusted $p = 0.123$). For the AMS, no significant difference was found among marital status groups ($H = 4.502$, $df = 3$, $p = 0.212$), indicating no statistically significant differences in the AMS scores across marital status categories. For the ALS, significant differences were observed across marital status groups ($H = 22.408$, $df = 3$, $p < 0.001$). Pairwise comparisons showed that single participants scored higher than married (adjusted $p = 0.009$), divorced (adjusted $p = 0.043$), or widowed participants (adjusted $p = 0.012$) in the ALS scores. These findings indicate statistical differences across marital status groups; however, results should be interpreted as exploratory due to small subgroup sizes. Nonparametric analyses using the Kruskal-Wallis H test were conducted to examine potential differences in the three scales across educational level categories (pharmacy graduate, specialist studies, PhD), due to the non-normal distribution of the dependent variables.

For the WPS, no significant difference was observed among educational level groups ($H = 0.689$, $df = 2$, $p = 0.709$). Pairwise comparisons with Bonferroni correction indicated no statistically significant differences between any of the groups.

For the AMS, the Kruskal-Wallis test also revealed no significant differences across educational levels ($H = 2.221$, $df = 2$, $p = 0.329$), with pairwise comparisons confirming the absence of significant contrasts.

For the ALS, results again indicated no significant differences among educational level groups ($H = 0.447$, $df = 2$, $p = 0.800$), and pairwise comparisons showed no statistically significant differences.

These findings suggest that educational level is not associated with differences in the WPS, AMS, or ALS scores within the sample. Nonparametric analyses using the Kruskal-Wallis H test were conducted to examine potential differences in the three scales across age groups, due to the non-normal distribution of the dependent variables.

For the WPS, the Kruskal-Wallis test indicated a statistically significant difference among age groups ($H = 12.595$, $df = 4$, $p = 0.013$). Pairwise comparisons with Bonferroni correction suggested that the differences were most pronounced between certain groups, although after adjustment, some contrasts did not reach the conventional significance threshold (adjusted $p > 0.05$).

For the AMS, the Kruskal-Wallis test also revealed significant differences among age groups ($H = 15.780$, $df = 4$, $p = 0.003$). Pairwise comparisons indicated that the oldest age groups tended to report higher AMS_sum scores compared with younger groups, with some adjusted p -values approaching significance.

For the ALS, significant differences were observed across age groups ($H = 16.900$, $df = 4$, $p = 0.002$). Pairwise comparisons showed that differences were mainly between the youngest and oldest groups, with adjusted p -values confirming the contrasts between certain groups (e.g., groups 1 vs. 4: adjusted $p = 0.049$; groups 4 vs. 5: adjusted $p = 0.032$).

Age was associated with differences in the WPS, AMS, and ALS scores, with older age groups generally reporting higher AMS and ALS scores. Nonparametric analyses using the Kruskal-Wallis H test were conducted to examine potential differences in scales across experience groups, due to the non-normal distribution of the dependent variables.

For the WPS, the Kruskal-Wallis test revealed a statistically significant difference among experience groups ($H = 30.367$, $df = 4$, $p < 0.001$). Pairwise comparisons with Bonferroni correction indicated that participants in group 3 differed significantly from groups 2, 4, and 5, suggesting that mid-career participants reported higher or lower scores compared with other experience levels.

For the AMS, significant differences were observed among experience groups ($H = 34.248$, $df = 4$, $p < 0.001$). Pairwise contrasts showed significant differences between group 3 and most other groups (groups 1, 2, 4, and 5), with Bonferroni-adjusted p -values confirming the contrasts between group 3 and the other experience levels.

For the ALS, the Kruskal-Wallis test indicated significant differences across experience groups ($H = 17.317$, $df = 4$, $p = 0.002$). Pairwise comparisons showed that group 3 differed significantly from groups 1, 4, and 5 in the ALS scores. Professional experience was associated with differences in the WPS, AMS, and ALS scores, with mid-career participants differing from other experience groups.

Discussion

The present study provides an initial psychometric evaluation of three context-specific scales designed to assess workplace-related behavioral tendencies, achievement motivation, and perceived leadership support among Serbian community pharmacists. The results provide preliminary evidence of internal consistency and acceptable factor structures, supporting the potential usefulness of these instruments for future research in pharmacy practice.

The observed associations among workplace personality, achievement motivation, and perceived agile leadership can be interpreted within a shared framework of work-related behavioral and motivational functioning. The findings suggest that more positive work-related behavioral tendencies are associated with higher achievement motivation, while perceived leadership support may further contribute to motivational processes by shaping the work environment. These relationships are consistent with the proposed conceptual overlap between the constructs, although the cross-sectional design does not allow causal interpretations.

The WPS demonstrated good internal consistency, consistent with findings from previous cross-cultural studies. High mean scores across items related to efficiency, responsibility, and collaboration suggest that Serbian pharmacists perceive themselves as conscientious and service-oriented. Some items showed slightly lower item-total correlations (e.g., “I take responsibility for all mistakes that occur at work”), indicating potential variation in how respondents experience certain aspects of workplace behavior. These discrepancies are common in multidimensional behavioral scales and may inform future refinement of item wording or conceptual clarity³⁷. Overall, the findings suggest that the scale captures several related workplace-oriented behavioral and attitudinal dimensions within the studied sample. EFA of the WPS revealed a multidimensional empirical structure that reflects several workplace-related behavioral domains identified within the studied sample^{35, 37}. The naming of factors reflects *post hoc* interpretative labeling based on item content rather than a predefined theoretical structure. The identified factors, reflecting user- and teamwork-oriented behaviors, organizational skills and motivation, task efficiency and accuracy, and responsibility for mistakes, represent empirically derived workplace behavior dimensions consistent with prior organizational behavior literature. These findings suggest that the adapted scale captures distinct but related aspects of professional behavior, indicating that the identified factors represent related but distinguishable dimensions of workplace functioning. The prominence of teamwork and service-oriented items resonates with the professional norms in pharmacy practice, where collaboration and attention to user needs are emphasized³⁵. Similarly, factors related to organizational skills and task performance highlight the importance of self-regulation and accuracy in professional settings. The factorial structure of the WPS reflects empirical clustering of

work-related behavioral and attitudinal items rather than a predefined theoretical structure based on the FFM. Therefore, the identified factors should be interpreted as context-specific dimensions of workplace functioning rather than direct representations of global personality traits. This empirical structure provides preliminary support for the internal organization of the scale and serves as a basis for further refinement and validation in future studies. Workplace personality in this study refers to context-specific work-related behavioral tendencies rather than stable personality traits as defined in major trait models.

The AMS exhibited high internal consistency, demonstrating that all items reliably measure motivation toward professional achievement. Participants reported strong engagement in goal setting, skill development, and responsibility for outcomes, reflecting a high level of professional proactivity. These findings support the potential relevance of achievement motivation as a measurable workplace construct within the pharmacy profession^{38, 39}.

EFA suggests that the AMS may be interpreted as a predominantly unidimensional measure within this sample. The single-factor solution, explaining over 50% of the variance, suggests that the items collectively capture a coherent construct encompassing perseverance, goal-setting, responsibility, and continuous professional development.

These findings align with theoretical perspectives on achievement motivation, which emphasize the importance of goal-directed behavior, self-efficacy, and the willingness to exert effort to attain high standards^{40, 41}. In the context of pharmaceutical practice, motivation to achieve may be particularly relevant for ensuring high-quality patient care, adherence to professional standards, and engagement in continuous learning.

The high communalities and strong factor loadings of all items indicate that the scale is reliable and that each item contributes meaningfully to the measurement of the construct. These findings provide preliminary justification for examining total scale scores in future research.

Moreover, the unidimensional structure simplifies interpretation and suggests that interventions aimed at enhancing achievement motivation, such as training programs, goal-setting workshops, and feedback systems, could be evaluated using the total scale score. Future research may examine the predictive validity of the AMS in relation to work performance, professional development outcomes, and engagement in quality improvement initiatives.

Overall, the AMS demonstrated promising psychometric characteristics that warrant further validation.

Although labeled as agile leadership, the ALS includes items that reflect broader supervisory support behaviors (e.g., communication, employee support, task coordination). This reflects the applied operationalization of agile leadership in the healthcare context, where agility is expressed through supportive, adaptive, and responsive leadership behaviors rather than purely strategic or technological agility frameworks. Future studies should further refine the construct and compare it with established leadership scales to

enhance discriminant validity. The ALS demonstrated high internal consistency, reflecting strong inter-item correlations and coherent measurement of supervisory support, flexibility, and guidance. Mean scores indicated moderate perceptions of leadership behaviors, which may reflect organizational realities, such as variations in leadership style or supervisory support. The high internal consistency suggests that the items consistently assess perceptions of supervisory support and leadership-related behaviors^{42, 43}.

The findings indicate that the ALS suggests a unidimensional structure of perceived supervisory support among community pharmacists within the present sample. The single-factor solution, accounting for over 70% of the variance, demonstrates that items collectively capture the overarching construct of supportive supervisory behaviors, including guidance, encouragement, flexibility, conflict management, and facilitation of professional growth.

These results are consistent with theoretical frameworks emphasizing the role of supervisors in promoting employee development, motivation, and engagement^{44, 45}. In the context of pharmaceutical practice, supervisor support is particularly relevant for ensuring effective team collaboration, adherence to professional standards, and continued competence development.

The high communalities and strong factor loadings suggest that each item contributes meaningfully to the measurement of supervisor support, supporting the use of a total scale score for research and practical applications. Furthermore, the unidimensional structure simplifies interpretation and may facilitate the assessment of interventions aimed at enhancing supervisory practices, such as leadership training programs, structured feedback, and mentorship initiatives.

Overall, the ALS demonstrated promising internal consistency and preliminary psychometric properties and may provide a useful basis for future research examining perceptions of supervisory support in pharmacy settings. Accordingly, the scale reflects supervisory support behaviors rather than a comprehensive theoretical model of leadership. The unidimensional structure of both the AMS and ALS simplifies their practical application, allowing researchers and practitioners to use total scale scores as reliable indicators of professional motivation and perceived supervisory support. This structure suggests that the items consistently capture a single, coherent construct, enhancing interpretability and comparability across studies. In contrast, the multi-dimensional nature of the WPS reflects the complex interplay of individual traits in professional behavior, highlighting specific areas, such as teamwork, organizational skills, and task accuracy, that may benefit from targeted interventions. Together, these factor structures provide nuanced insights into individual and leadership-related characteristics in community pharmacy practice, supporting both research and applied development initiatives.

All three scales exhibit satisfactory to excellent internal consistency ($\alpha > 0.855$). While the WPS and AMS showed good reliability, the ALS achieved the highest α , suggesting

particularly strong coherence among items. Descriptive data indicate that participants report high levels of workplace personality traits and achievement motivation, but more moderate perceptions of agile leadership behaviors. These patterns are consistent with the internal structure observed within the scales, although additional validation studies are required. The relatively high correlation between the WPS and the AMS may reflect conceptual proximity between work-related behavioral tendencies and motivational orientations in professional settings. Several items across the two scales share emphasis on effort, responsibility, and goal-oriented work behavior, which may contribute to their empirical overlap. This pattern suggests the possibility of partial construct redundancy or a broader underlying work-related engagement dimension. However, given the cross-sectional and single-method design, further validation using more distinct measurement approaches and higher-order models is needed to clarify the discriminant validity of these constructs. A single higher-order factor was not tested in the present study; therefore, the possibility that a general underlying work-related disposition explains the observed correlations cannot be ruled out.

The observed associations among the three constructs are broadly consistent with findings reported in previous organizational and healthcare research^{35, 37, 43}. High conscientiousness and goal-oriented behavior may facilitate engagement and proactive problem-solving, although the degree of conceptual overlap among the constructs requires further investigation in future validation studies. These insights underscore the importance of integrated development approaches that target both individual capacities and leadership quality to optimize team functioning in pharmacy settings. High conscientiousness and goal-oriented behavior may facilitate engagement and proactive work-related functioning, which could partly explain the observed associations among the three constructs. However, the degree of conceptual overlap among the scales requires further investigation in future validation studies. The observed correlations suggest the possibility of a broader underlying workplace-related disposition, which should be examined in future research using higher-order or bifactor models. This overlap suggests that future iterations of the instruments should further differentiate behavioral (WPS) and motivational (AMS) content to reduce semantic redundancy. The findings should be interpreted as context-specific and preliminary, referring to Serbian community pharmacists. While the developed scales may have potential applications in research and professional development, further validation in different healthcare settings and cultural contexts is required before broader generalization. The constructs measured in this study are context-specific and should not be interpreted as direct representations of established personality or leadership taxonomies.

The interpretation of the observed relationships among workplace personality, achievement motivation, and perceived supervisory support can be further situated within established theoretical frameworks of organizational behavior and leadership research. The positive associations

between these constructs are consistent with prior evidence linking work-related behavioral tendencies and motivational orientations with perceived organizational and supervisory support, as well as leadership behaviors that facilitate employee development and engagement^{1, 6, 13, 18, 19, 46}. From a broader theoretical perspective, these relationships can be understood through transformational and supportive leadership frameworks, which emphasize the role of leaders in shaping motivation, engagement, and adaptive work behaviors^{19, 20, 43, 45}. In addition, perceived organizational support theory suggests that employees' motivation and work-related attitudes are influenced by the extent to which they perceive their organization and supervisors as valuing their contribution and well-being^{18, 42, 46}.

Furthermore, the conceptual proximity between workplace personality and achievement motivation observed in this study may reflect a shared underlying dimension of positive work engagement or proactive work orientation, as suggested in contemporary organizational psychology and motivation literature^{5, 16, 26, 31}. However, the present findings remain exploratory and do not allow for definitive conclusions regarding the underlying structure of these constructs. Future research should further examine these relationships using more complex structural models, including higher-order and bifactor approaches, as well as longitudinal and multi-source designs, in order to clarify the directionality and distinctiveness of these associations^{47, 48}.

Taken together, these findings provide preliminary support for the relevance of integrating individual dispositional factors and leadership-related perceptions in understanding professional functioning in pharmacy practice, particularly in relation to employee motivation, work engagement, and adaptive supervisory environments^{3, 8, 41}.

Limitations of the study

Several limitations should be acknowledged. First, the study employed a cross-sectional self-report design, which may have increased the risk of common method variance. In addition, all three instruments were assessed using a single-method, single-occasion design, which limits the ability to control for common method bias and does not allow for multi-trait multi-method (MTMM) validation. As a result, observed relationships among constructs may be partially inflated by shared method variance. Therefore, the present study does not support strong conclusions regarding convergent or discriminant validity, and validity evidence is restricted to preliminary internal structure and association-level findings.

From a psychometric perspective, EFA was conducted within a single sample, and CFA was not performed. Therefore, the identified factor structures should be considered preliminary and sample-specific. Furthermore, test-retest reliability was not assessed, and temporal stability of the instruments remains unverified. Similarly, criterion-related validity (e.g., associations with job performance, job satisfaction, burnout, turnover intention, or supervisor-rated performance) was not examined, and convergent and

discriminant validity against established external instruments were not assessed. Accordingly, validity evidence in this study is limited to EFA and inter-scale correlations, which provide only initial support and do not establish full construct validity. Future research should incorporate CFA on independent samples, MTMM designs, and external criterion measures to strengthen validation.

The present study also has theoretical and construct-related limitations. The observed mismatch between the theoretical framework used for item generation and the empirically derived factor structure highlights the exploratory nature of this scale development, particularly for the WPS, which should be interpreted as a context-specific behavioral construct rather than a direct operationalization of established personality models. In addition, the ALS demonstrates conceptual overlap with broader constructs such as general supervisory support and traditional leadership frameworks, indicating the need for further refinement and discriminant validation in future studies. The observed intercorrelations among the three scales may also reflect partial construct overlap or a broader underlying work-related disposition, which should be examined in future higher-order or bifactor models.

An additional limitation relates to potential response biases. The high mean scores observed for the WPS and AMS may indicate ceiling effects and socially desirable responding, particularly given the normative desirability of items related to responsibility, teamwork, accuracy, and professional development. Since no social desirability measure was included, this potential bias could not be controlled statistically and may have influenced score distributions and inter-construct relationships.

Regarding the sample, the study was conducted on Serbian community pharmacists, and the findings may not be generalizable to other healthcare professions or cultural contexts without further validation. The sample was predominantly female (91.5%), reflecting the structure of the profession; however, this imbalance should be considered when interpreting results. The subgroup of participants with PhD degrees was very small ($n = 5$), limiting statistical power for educational comparisons. In addition, the pilot testing phase included a small sample ($n = 10$), which was used only for preliminary assessment of item clarity and feasibility and does not provide psychometric evidence.

Finally, future validation studies should incorporate additional psychometric indices, including McDonald's omega, composite reliability, average variance extracted, parallel analysis, and test-retest reliability, as well as more rigorous multi-stage validation procedures. Quantitative content validity indices (e.g., CVI) should also be considered in future research to further strengthen measurement quality.

Conclusion

The present study provides an initial psychometric evaluation of three context-specific instruments designed to assess workplace-related behavioral tendencies, achievement motivation, and perceived leadership support among Serbian

community pharmacists. The findings indicate satisfactory internal consistency and preliminary evidence regarding the internal structure of the proposed scales, supporting their potential usefulness for future research in pharmacy practice.

Together, these instruments offer a context-specific approach to examining selected psychological, motivational, and leadership-related aspects of professional work in pharmacy settings. The observed associations among the scales contribute to understanding how these workplace-related constructs may interact within the professional environment.

Several limitations should be considered when interpreting the findings. The study relied exclusively on self-report measures collected at a single time point, which may have increased the influence of common method variance and social desirability bias. In addition, test-retest reliability, criterion validity, convergent validity with established instruments, and confirmatory factor analysis were not examined. Therefore, the findings should be regarded as preliminary and require further validation.

Future research should evaluate the scales in independent samples, examine temporal stability and

external validity, and investigate relationships with relevant professional outcomes such as job performance, employee engagement, and professional development. Such studies will help determine the broader applicability and usefulness of these instruments within pharmacy and other healthcare contexts.

The developed scales provide preliminary, context-specific tools for assessing workplace personality, achievement motivation, and perceived agile leadership among Serbian community pharmacists. Their application is currently limited to this professional context, and further validation in other healthcare settings and cultural environments is necessary before broader use can be recommended.

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Supplementary Table 1**Final versions of the scales****Scale 1: Workplace Personality Scale (WPS) in pharmaceutical practice**

Instructions: For each statement, please indicate how often it describes your professional behavior in your workplace. Use the following scale: 1 – Never, 2 – Rarely, 3 – Sometimes, 4 – Often, 5 – Always.

Item	Statement
1	I am satisfied with my work when I can help users with their problems.
2	I feel calm even when I have many tasks to complete.
3	I enjoy collaborating with colleagues to solve problems.
4	I try to maintain a positive attitude with users, even in stressful situations.
5	I help new colleagues adapt to the work environment.
6	I take responsibility for all mistakes that occur at work.
7	I am willing to learn new techniques and improve my skills.
8	I enjoy completing tasks efficiently and accurately.
9	I feel motivated to always provide the best service to users.
10	I strive to develop my organizational skills.
11	I usually find it easy to adapt to new situations.
12	I like to take responsibility for my work.
13	I understand how my behavior affects the workplace atmosphere.
14	I believe that teamwork is essential for achieving good results.
15	I strive to always make accurate and fair decisions.

Scale 2: Achievement Motivation Scale (AMS) in pharmaceutical practice

Instructions: For each statement, please indicate how often it describes your professional behavior in your workplace. Use the following scale: 1 – Never, 2 – Rarely, 3 – Sometimes, 4 – Often, 5 – Always.

Item	Statement
1	I invest maximum effort to achieve the best possible results in my work.
2	I regularly set challenging goals that I aim to accomplish in pharmaceutical practice.
3	I am always motivated to improve my knowledge and skills in pharmaceutical practice.
4	I continue working toward goals even when facing difficulties or uncertainty.
5	I believe in my ability to succeed in the tasks assigned to me.
6	I am motivated to contribute to improving pharmaceutical services and work quality.
7	I am willing to take responsibility for achieving important results in my work.

Scale 3: Agile Leadership Scale (ALS) in pharmaceutical practice

Instructions: For each statement, please indicate how often it describes your supervisor's behavior in your workplace. Use the following scale: 1 – Never, 2 – Rarely, 3 – Sometimes, 4 – Often, 5 – Always.

Item	Statement
1	My supervisor makes an effort to understand the personal and professional challenges I face.
2	My supervisor clearly defines work tasks and priorities.
3	My supervisor encourages me to take initiative and strive for better results.
4	My supervisor effectively resolves conflicts within the team.
5	My supervisor demonstrates flexibility in adapting to new challenges in pharmaceutical practice.
6	My supervisor has a clear vision for the development of pharmaceutical practice and communicates it regularly.
7	My supervisor supports my development through additional training and education.

Note: All items are rated on a 5-point Likert scale (1 – Never, 5 – Always). Scales are culturally adapted for the context of community pharmacy practice. These instruments were developed specifically for this study and have been validated for internal consistency and reliability.

Supplementary Table 2

Descriptive statistics for the three scales

Scale	Number of items	Mean $\pm$ SD	Range
Workplace Personality Scale	15	4.52 $\pm$ 0.49	1–5
Achievement Motivation Scale	7	4.39 $\pm$ 0.52	1–5
Agile Leadership Scale	7	3.40 $\pm$ 0.62	1–5

Scale/Item	Range	Mean $\pm$ SD
Workplace Personality Scale (n = 633)		
I am satisfied with my work when I can help users with their problems.	1–5	4.61 $\pm$ 0.74
I feel calm even when I have many tasks to complete.	1–5	3.50 $\pm$ 0.88
I enjoy collaborating with colleagues to solve problems.	2–5	4.54 $\pm$ 0.70
I try to maintain a positive attitude with users, even in stressful situations.	1–5	4.43 $\pm$ 0.61
I help new colleagues adapt to the work environment.	1–5	4.75 $\pm$ 0.48
I take responsibility for all mistakes that occur at work.	1–5	4.01 $\pm$ 0.99
I am willing to learn new techniques and improve my skills.	1–5	4.70 $\pm$ 0.61
I enjoy completing tasks efficiently and accurately.	1–5	4.80 $\pm$ 0.46
I feel motivated to always provide the best service to users.	1–5	4.31 $\pm$ 0.90
I strive to develop my organizational skills.	2–5	4.52 $\pm$ 0.68
I usually find it easy to adapt to new situations.	2–5	3.93 $\pm$ 0.78
I like to take responsibility for my work.	2–5	4.78 $\pm$ 0.46
I understand how my behavior affects the workplace atmosphere.	3–5	4.56 $\pm$ 0.61
I believe that teamwork is essential for achieving good results.	2–5	4.68 $\pm$ 0.62
I strive to always make accurate and fair decisions.	3–5	4.81 $\pm$ 0.42
Achievement Motivation Scale (n = 633)		
I invest maximum effort to achieve the best possible results in my work.	2–5	4.51 $\pm$ 0.60
I regularly set challenging goals that I aim to accomplish in pharmaceutical practice.	1–5	4.00 $\pm$ 0.85
I am always motivated to improve my knowledge and skills in pharmaceutical practice.	1–5	4.36 $\pm$ 0.80
I continue working toward goals even when facing difficulties or uncertainty.	2–5	4.25 $\pm$ 0.81
I believe in my ability to succeed in the tasks assigned to me.	2–5	4.61 $\pm$ 0.55
I am motivated to contribute to improving pharmaceutical services and work quality.	1–5	4.23 $\pm$ 0.94
I am willing to take responsibility for achieving important results in my work.	1–5	4.52 $\pm$ 0.67
Agile Leadership Scale (n = 633)		
My supervisor makes an effort to understand the personal and professional challenges I face.	1–5	3.43 $\pm$ 1.17
My supervisor clearly defines work tasks and priorities.	1–5	3.50 $\pm$ 1.11
My supervisor encourages me to take initiative and strive for better results.	1–5	3.40 $\pm$ 1.33
My supervisor effectively resolves conflicts within the team.	1–5	3.21 $\pm$ 1.26
My supervisor demonstrates flexibility in adapting to new challenges in pharmaceutical practice.	1–5	3.46 $\pm$ 1.13
My supervisor has a clear vision for the development of pharmaceutical practice and communicates it regularly.	1–5	3.31 $\pm$ 1.24
My supervisor supports my development through additional training and education.	1–5	3.50 $\pm$ 1.30