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Empathy and Communication Skills in Pre-Service Teachers: A Study of Structural Relationships

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Abstract

This study aims to investigate the levels, differences, and interrelationships of empathy and communication skills among pre-service teachers. Designed as a quantitative study, the research was conducted with 437 pre-service teachers enrolled in teacher education programs in Turkiye. The data were collected using the Communication Skills Inventory and the Empathy Quotient Scale. The measurement structures were initially tested via confirmatory factor analysis (CFA), followed by descriptive statistics and independent samples t-tests for group differences, Pearson correlation for associations, and structural equation modeling (SEM) to examine predictive relationships between empathy and communication dimensions. The descriptive results indicated generally high levels of empathy and communication skills among pre-service teachers. Regarding gender-based comparisons, female participants scored significantly higher than males in empathy and constructive communication. Correlation analysis revealed a moderate and positive association between empathy and constructive communication, while the relationship between empathy and communication barriers was not statistically significant. The structural model demonstrated that empathy significantly predicted constructive communication, whereas its direct effect on communication barriers was not significant. These findings suggest that empathy contributes primarily to the development of constructive communication behaviors rather than to the reduction of communication barriers. Educational administrators should recognize the significant role of interpersonal competencies in shaping the relational dimensions of school environments. While empathy appears to support constructive communication, reducing communication barriers may require broader organizational interventions.

Keywords: empathy, communication skills, pre-service teachers, structural relationships

1. Introduction

Teaching is inherently based on relations. It demands pedagogical knowledge and instructional competence; however, it rests on the quality of the interpersonal relationships in educational contexts. Teachers interact with students, colleagues, administrators, and families in various settings, and listening, interpreting, being emotionally sensitive, and responding appropriately are required in these interactions. Therefore, empathy and communication skills are commonly

regarded as significant professional competencies in teacher education. These competencies are especially critical for pre-service teachers, who are still developing their professional identities and learning how to respond to students' academic, emotional, and social needs.

Empathy can be understood as the capacity to recognize and address others' emotional states and needs. Ahmetoglu and Acar (2016) regarded it as part of pre-service teachers' social development, along with social competence and communication skills. In teacher education, empathy is important because it contributes to taking diverse perspectives, exhibiting necessary sensitivity to student differences, and creating supportive learning environments (Amanbaikyzy & Jakavonyte-Staskuviene, 2025; Ampofo et al., 2025). Social and emotional learning frameworks similarly treat empathy as a core component of social awareness. Palomera et al. (2017) described social awareness as the ability to take others' perspectives, empathize, and recognize individual and group similarities and differences. Aldrup et al. (2022) revealed that teacher empathy is relevant to high-quality teacher-student interaction, especially emotional support. Therefore, empathy is not simply an individual attribute; it is also a professional resource that can influence how future teachers perceive and react to classroom interactions.

Communication skills are critical in effective teaching. Communication is the sharing of emotions, thoughts, and information with the development of shared meaning between individuals (Kana, 2015). In educational environments, teachers must communicate to teach content, ask questions, give feedback, facilitate discussions, assist students, and collaborate with colleagues. These skills are linked to the quality of classroom interaction as teachers must notice, interpret, and respond to students' academic and emotional needs when teaching is effective. The study by Wiens et al. (2021) revealed that pre-service teachers' ability to identify effective teaching interactions was correlated with emotional and instructional support that they showed in classroom interactions. Conversely, Kana (2015) stated that communication problems may arise from inaccurate interpretation of messages, insufficient language skills, or barriers related to psychological, social, physical, technical, and organizational factors, which suggests that communication competence is not limited to speaking effectively. It also involves listening, interpreting, adapting messages, giving feedback, and managing interactional obstacles. Karasova and Kleckova (2023) reported that pre-service teachers were better able to recognize effective communication strategies for disruptive learner behavior than to apply them in practice, which indicates the need for more practice-based communication training in teacher education that supports classroom management and learner engagement.

Empathy may help individuals communicate more constructively because it supports careful listening, taking different perspectives, and responding sensitively to others. These qualities may help pre-service teachers build positive relationships with students and respond to classroom situations in supportive ways. However, communication skills among pre-service teachers may differ across demographic and educational variables rather than being uniformly developed across all groups (Ahmetoglu & Acar, 2016; Kana, 2015). Therefore, empathy and communication-based competencies can be developed through structured experiences in teacher education. Palomera et al. (2017) showed that a social and emotional learning program in a pre-service teacher curriculum significantly improved self-esteem, empathy, and confidence in public speaking while reducing the fear of speaking publicly and its negative affect; more importantly, the program relied on experiential and collaborative methods such as role-play, case studies, video analysis, group activities, self-evaluation, peer evaluation, and feedback. Celik and Alpan (2023), similarly, in their study on "an effective communication course with enhanced student engagement", detected a significant improvement in pre-service teachers' empathic tendency, although the effect on communication skills was not statistically significant (p. 33), which suggests that communication-based courses may influence empathy

more readily than measurable communication skills. In the same direction, Monroy Correa and Manzanal Martinez (2025) concluded that intervention programs for pre-service teachers can support emotional awareness, self-regulation, empathy, and communication skills, particularly when they use cooperative, experiential, and reflective methods such as portfolios, role-playing, simulations, avatar-based activities, and video or text analysis. In their review, it was also emphasized that socio-emotional competencies include both intrapersonal capacities, such as self-awareness and self-regulation, and interpersonal capacities, such as empathy, effective communication, and responsible decision-making.

However, the literature also suggests that empathy and communication should not be treated as identical constructs. Communication includes both constructive behaviors and barriers that may prevent effective interaction. Constructive communication may be supported by empathy because it requires listening, understanding, and respectful responses. Communication barriers, nevertheless, may arise from psychological, social, linguistic, technical, or organizational sources. Kana (2015) identified several possible barriers, including prejudices, differences in perception, attitudes and behaviors, sociocultural differences, time pressure, hierarchy, management style, status differences, information overload, and inadequate feedback. This implies that empathy may be more directly related to positive communication behaviors than to the reduction of all communication barriers.

As observed in the literature, empathy may operate differently depending on the outcome examined. For example, Wink et al. (2021) found that teachers' cognitive empathy was associated with more positive mindsets about student behavior, greater competence in handling problem behaviors, more effective problem-solving strategies, greater relationship closeness, and lower burnout. However, empathic distress showed largely opposite patterns. Although their study focused on in-service elementary teachers rather than pre-service teachers, it is useful because it shows that different forms of empathy may have different implications for professional interaction. Similarly, Sun et al. (2023) proposed that the role of empathy in teacher-student interaction may involve affective contagion, cognitive evaluation, and behavior prediction. These studies support the need to examine empathy in relation to specific communication outcomes, instead of assuming that its effects are consistent across all dimensions of communication. Therefore, this study aims to examine the levels, differences, and structural relationships between empathy and communication skills among pre-service teachers. The results contribute to the literature on teacher education by clarifying whether empathy functions as a general predictor of communication skills.

2. Methods

2.1. Research Design

This study was designed to examine the levels, differences, and relationships between empathy and communication skills of pre-service teachers. It was conducted with a quantitative design and specifically aimed to determine the levels of empathy and communication skills, the differences between the various demographic characteristics, the relationship between empathy and communication skills, and the predictive role of empathy in explaining the communication competence. The following research questions (RQs) were thus explored:

- RQ1. What are the levels of empathy and communication skills of pre-service teachers?
- RQ2. Do empathy and communication skills differ significantly according to demographic variables such as gender, age, department, or year of study?
- RQ3. Is there a significant relationship between pre-service teachers' empathy and their communication skills?

- RQ4. To what extent does the level of empathy predict communication skills in pre-service teachers?

2.2. Participants

The participants in this study were pre-service teachers enrolled in teacher education programs in Turkiye. Tab. 1 presents the demographic profile of the study sample.

Table 1: Demographics

Gender	**n**	**%**	**Department**	**n**	**%**
Female	303	69.3	English Language Teaching	112	25.6
Male	134	30.7	Preschool Teaching	70	16.0
Year of Study	**n**	**%**	Special Education Teaching	67	15.3
1st Year	49	11.2	Mathematics Teaching	62	14.2
2nd Year	160	36.6	Turkish Language Teaching	60	13.7
3rd Year	166	38.0	Psychological Counselling and Guidance	35	8.0
4th Year	57	13.0	Primary School Teaching	11	2.5
5th Year	5	1.1	Social Studies Teaching	10	2.3
Age	**X̄**	**SD**	Others*	10	2.3
	21.22	2.98	Total	437	100.0

*Note. *Science Teaching (n = 5); Information Technology Teaching (n = 3); French Language Teaching (n = 1), and Physical Education Teaching (n = 1); total (n = 10).*

A total of 437 pre-service teachers participated in the study, comprising 303 females (69.3%) and 134 males (30.7%). The mean age of the participants was 21.22 (SD = 2.98). Approximately three-quarters of the sample consisted of second- and third-year students (74.6%). In terms of departmental distribution, English language teaching had the highest representation with 25.6% (n = 112), followed by preschool teaching (n = 70; 16.0%), special education teaching (n = 67; 15.3%), mathematics teaching (n = 62; 14.2%), and Turkish language teaching (n = 60; 13.7%). Psychological counselling and guidance accounted for 8.0% of the sample, while primary school teaching (n = 11; 2.5%) and social studies teaching (n = 10; 2.3%) had relatively smaller sizes. The remaining departments were grouped under the "others" category (n = 10; 2.3%) for analytical purposes.

2.3. Instruments

The questionnaire form consisted of three parts: demographics, the Empathy Quotient Scale (EQS), and the Communication Skills Inventory (CSI). In the demographics, the respondents provided information about their gender, age, department of study, and year of study. Second, the EQS was configured into the questionnaire with 13 items, which was developed by Lawrence et al. (2004) and adapted into the Turkish language by Kaya and Colakoglu (2015). The original three-factor structure of the EQS was tested using confirmatory factor analysis (CFA) and did not demonstrate adequate fit ($\chi^2/df = 3.94$, CFI = 0.902; TLI = 0.877; RMSEA = 0.116). Moreover, the inter-factor correlations were very high ($r > 0.85$), indicating limited discriminant validity among the hypothesized dimensions. Re-specification was therefore driven by two complementary sources of empirical evidence rather than by data-fitting alone. First, exploratory factor analysis (EFA) using principal-axis factoring with oblimin rotation on a randomly drawn split-half subsample (n = 218) yielded a single dominant factor: the first

eigenvalue (7.00) was more than five times the second (1.33), and the one-factor solution reproduced the inter-item structure well, supporting unidimensionality. Second, in the initial CFA, the loading of item A3 was non-significant ($\beta = 0.04$; $p = 0.46$), and A13 loaded weakly with cross-loading indications; both items were removed on these substantive grounds. The final 11-item single-factor model (A1, A2, A4, A5, A6, A7, A8, A9, A10, A11, and A12) showed improved fit relative to the original specification ($\chi^2/df = 4.19$; CFI = 0.933; TLI = 0.916; RMSEA = 0.085; SRMR = 0.047). All standardized loadings were significant ($\beta = 0.63$-0.85; $p < 0.001$), and convergent validity and reliability were satisfactory (AVE = 0.59; composite reliability (CR) = 0.94; $\alpha = 0.918$). Although the RMSEA remained slightly above the conventional 0.06 cut-off, this index is known to be upwardly biased in models with relatively few degrees of freedom and high loadings; the incremental indices and SRMR therefore provide a more appropriate basis for judging fit here. As reported below, this model was scalar-invariant across gender and year of study, supporting mean comparisons across these groups.

Finally, the CSI was used in the questionnaire. It was developed by Ersanli and Balci (1998), including 45 items categorized into three constructs. The original three-factor structure of the CSI was tested using CFA, and it did not demonstrate adequate fit ($\chi^2/df = 4.27$; CFI = 0.606; TLI = 0.586; RMSEA = 0.087) and a one-factor alternative fit even worse (CFI = 0.628; TLI = 0.599; RMSEA = 0.091; SRMR = 0.134), confirming that a single dimension is untenable. EFA on a split-half subsample produced two dominant factors (first two eigenvalues = 8.05 and 4.43; all remaining < 1.5), separating the positively worded Constructive Communication (CC) items (B1, B2, B6, B7, B8, B14, B15, B17, B19, B20, B22, B25, B36, B43, B44, and B45) from the negatively worded Communication Barriers (CB) items (B3, B9, B10, B11, B16, B24, B27, B29, B32, B34, B35, B37, and B41). The re-specified two-factor model of CC with 16 items and CB with 13 items showed acceptable fit on the absolute/close-fit indices ($\chi^2/df = 2.16$; RMSEA = 0.051; SRMR = 0.060), although the incremental indices were marginal (CFI = 0.880; TLI = 0.871). The marginal CFI is attributable to the large retained item pool of 29 items, the modest average loadings on the CB factor, and the use of robust maximum likelihood (MLR) estimation, which adjusts model fit under conditions of residual non-normality. Given the good RMSEA/SRMR and the theoretically clean structure, this model was retained as the best-supported representation. Reliability was satisfactory (CR/α: CC = 0.93; CB = 0.85). The two factors were weakly and negatively related at the latent level ($r = -0.18$); because $|r|$ was below the square root of each factor's average variance extracted (CC $\sqrt{AVE} = 0.67$; CB $\sqrt{AVE} = 0.56$), discriminant validity was supported. The CB items are negatively worded with statements describing barriers to effective communication and were reverse-coded so that higher scores denote fewer perceived barriers. Because CC and CB are weakly and inversely related and tap conceptually distinct content, they are treated as two separate dimensions throughout and are not aggregated into a single total communication score.

2.4. Data Collection

Following ethical approval granted by the Board of Ethics for Human Studies in Social Sciences and Humanities to conduct the study, the data were collected from pre-service teachers studying in teacher education programs in Turkiye. The data were collected anonymously, and participants were assured of the confidentiality of their responses. Of more than 600 deliveries, 437 responses were used for analysis after the dataset was screened and cleaned by removing incomplete and inconsistent responses.

2.5. Data Analysis

SPSS (v27.0) and Mplus (v8.3) were used to analyze the data of 437 participants. Descriptive statistics were used to determine the levels of pre-service teachers' empathy and communication skills (RQ1). Before inferential testing, ceiling effects were inspected in the proportion of scores (≥ 4.5) and distributional skew, and common method bias was assessed with Harman's single-factor test and a single-method-factor CFA. Measurement invariance across gender and year of study was tested for configural, metric, and scalar using $\Delta CFI \leq 0.010$ and $\Delta RMSEA \leq 0.015$ as criteria. For RQ2, group differences were examined with Welch-corrected independent-samples t-tests and one-way ANOVA. For each comparison, standardized effect sizes were reported, including Hedges' g for two-group contrasts and η^2 for omnibus tests. Values of η^2 were interpreted as small (0.01), medium (0.06), and large (0.14), and multiplicity was controlled using Holm correction within the gender family and Benjamini-Hochberg false-discovery-rate correction within each ANOVA family. Pearson correlations were used for RQ3, and structural equation modeling (SEM) with MLR estimation was performed for the predictive effects of empathy on the two communication dimensions (RQ4).

3. Results

3.1. Levels of Empathy and Communication Skills

In response to RQ1, participants' empathy and constructive communication were generally at a high level, as shown in Tab. 2. Using the scale intervals of 3.41-4.20 for high, empathy ($\bar{X}$ = 3.762) and constructive communication ($\bar{X}$ = 3.956) fell in the high range. Communication barriers, reverse-coded so that higher values indicated fewer perceived barriers, were at a moderate level ($\bar{X}$ = 3.404). Consistent with the measurement model, the two communication dimensions were reported separately rather than as a single composite. Empathy and constructive communication were negatively skewed, with a non-trivial share of respondents at the top of the scale (17.2% and 23.1% scored ≥ 4.5; skew = −1.55 and −1.09, respectively), indicating a mild ceiling effect that should temper the interpretation of group differences and correlations for these two variables; communication barriers were approximately symmetric (skew = −0.40) with no ceiling.

Table 2: Descriptive statistics for empathy and communication skills

Construct	Items	$\bar{X}$	SD	Skewness	Kurtosis
Constructive Communication	16	3.956	0.656	-1.091	2.165
Communication Barriers	13	3.404	0.689	-0.399	-0.022
Empathy	11	3.762	0.905	-1.552	2.358

3.2. Preliminary Measurement Validity

Before comparing groups, measurement invariance was tested across gender and across year of study (dichotomized as lower [Years 1–2] vs. upper [Years 3–5]). For empathy, the 11-item model supported full scalar invariance across gender (configural CFI = 0.930; metric ΔCFI = 0.006; scalar ΔCFI = 0.008; $\Delta RMSEA \leq 0.001$) and year ($\Delta CFI \leq 0.003$). For the CSI two-factor model, full scalar invariance also held across gender (configural CFI = 0.837; metric $\Delta CFI = -0.001$; scalar ΔCFI = 0.004; $\Delta RMSEA \leq 0.001$) and year ($\Delta CFI \leq 0.003$). Because all changes fell within the $\Delta CFI \leq 0.010$ / $\Delta RMSEA \leq 0.015$ criteria, factor loadings and intercepts were equivalent across these groups, indicating that the observed mean differences reflect genuine group differences rather than measurement non-equivalence.

Common method bias was unlikely to threaten the findings. Harman's single-factor test indicated that the first unrotated component accounted for only 27.9% of the variance (well below the 50% heuristic), and a model constraining all 40 retained items to load on a single latent method factor fit very poorly (CFI = 0.515; TLI = 0.489; RMSEA = 0.100; SRMR = 0.134), far worse than the hypothesized measurement models, which provides converging evidence against a dominant method factor.

3.3. Differences by Demographic Variables

To address RQ2, independent samples t-tests and one-way ANOVA were conducted to examine whether empathy and communication skills differed across demographic variables. As presented in Tab. 3, the results of the independent samples t-test indicated that both empathy and communication skills differed significantly by gender ($p < 0.05$). Female participants reported higher levels of empathy ($\bar{X} = 3.83$) than males ($\bar{X} = 3.61$). Similarly, females scored significantly higher in constructive communication ($\bar{X} = 4.06$) compared to males ($\bar{X} = 3.72$). In addition, females reported higher reverse-coded scores on communication barriers ($\bar{X} = 3.51$) than males ($\bar{X} = 3.17$). Effect sizes for the gender contrasts were small for empathy (Hedges' $g = 0.25$) and medium for constructive communication ($g = 0.54$) and communication barriers ($g = 0.49$); all gender differences remained significant after Holm correction.

Table 3: Variability of empathy and communication skills by gender

Construct	Female (n=303) $\bar{X} \pm SD$	Male (n=134) $\bar{X} \pm SD$	t (p)
Empathy	3.83 ± 0.88	3.61 ± 0.96	2.39 (0.018)
Constructive Communication	4.06 ± 0.58	3.72 ± 0.75	4.73 (< 0.001)
Communication Barriers	3.51 ± 0.66	3.17 ± 0.69	4.75 (< 0.001)

The ANOVA results regarding differences in empathy and communication skills by age group are presented in Tab. 4. Accordingly, empathy levels did not significantly differ across age groups ($F = 0.69$; $p = 0.598$). Similarly, no significant differences were observed in constructive communication ($F = 0.20$; $p = 0.941$). However, communication barriers differed significantly by age group ($F = 5.67$; $p < 0.001$). Post-hoc comparisons indicated that participants aged 18-19 reported higher scores in communication barriers than those aged 20-22, while participants aged 23 and above also scored higher than those aged 22. The age effect was significant only for communication barriers ($\eta^2 = 0.050$; a small effect; Benjamini-Hochberg-adjusted $p = 0.001$); empathy ($\eta^2 = 0.006$) and constructive communication ($\eta^2 = 0.002$) did not differ by age.

Table 4: Variability of empathy and communication skills by age

Construct	F	p	Significant Difference (Post-hoc)
Empathy	0.69	0.598	None
Constructive Communication	0.20	0.941	None
Communication Barriers	5.67	< 0.001	18-19>20, 21, 22; 23+>22

The results of the one-way ANOVA conducted to determine whether participants' empathy and communication skills differed according to their department are depicted in Tab. 5. Accordingly, empathy levels did not differ significantly across departments ($F = 0.37$; $p = 0.867$). However, significant differences were found in constructive communication ($F = 4.61$; $p < 0.001$). Post-hoc comparisons indicated that students in Turkish language teaching demonstrated higher constructive communication scores than those in other departments.

Communication barriers also varied significantly by department ($F = 6.81$; $p < 0.001$), with Turkish language teaching students reporting higher scores than several other groups. Department differences were small to medium for the communication dimensions (CC $\eta^2 = 0.079$; CB $\eta^2 = 0.113$; both Benjamini-Hochberg-adjusted $p < 0.001$), whereas empathy did not differ across departments ($\eta^2 = 0.012$).

Table 5: Variability of empathy and communication skills by department

Construct	F	p	Significant Difference (Post-hoc)
Empathy	0.37	0.867	None
Constructive Communication	4.61	< 0.001	TLT>O, MT, PST, SET, ELT
Communication Barriers	6.81	< 0.001	TLT>MT, PST, ELT

Note. O=Others; MT=Mathematics Teaching; PST=Preschool Teaching; TLT=Turkish Language Teaching; SET=Special Education Teaching; ELT=English Language Teaching.

The ANOVA results examining whether empathy and communication skills differed according to year of study are illustrated in Tab. 6. Empathy levels did not significantly differ by year of study ($F = 0.48$; $p = 0.751$). In contrast, constructive communication showed a significant difference ($F = 4.07$; $p = 0.003$), with first-year students scoring higher than second-year students. Moreover, communication barriers differed significantly ($F = 4.22$; $p = 0.002$), with first-year students reporting higher scores than second- and third-year students. Effects of year of study were small (CC $\eta^2 = 0.036$; CB $\eta^2 = 0.038$; both Benjamini-Hochberg-adjusted $p \leq 0.004$), and empathy was invariant across years ($\eta^2 = 0.004$).

Table 6: Variability of empathy and communication skills by year of study

Construct	F	p	Significant Difference (Post-hoc)
Empathy	0.48	0.751	None
Constructive Communication	4.07	0.003	1st Year>2nd Year
Communication Barriers	4.22	0.002	1st Year>2nd and 3rd Year

3.4. Relationship Between Empathy and Communication Skills

To explore RQ3, Pearson correlation analysis was conducted to examine the relationships between empathy and the sub-dimensions of communication skills. As presented in Tab. 7, the findings revealed a moderate, positive, and statistically significant relationship between empathy and constructive communication ($r = 0.489$; $p < 0.001$). In contrast, the relationship between empathy and communication barriers was low and not statistically significant ($r = 0.078$; $p > 0.05$).

Table 7: Correlations between empathy and communication skills

Construct	A	B-1	B-2
A. Empathy	1		
B-1. Constructive Communication	0.489**	1	
B-2. Communication Barriers	0.078	0.153*	1

*Note. * $p < 0.01$; ** $p<0.001$*

3.5. Predictive Effects of Empathy on Communication Skills

In response to RQ4, SEM was conducted to investigate the predictive effects of empathy on communication skills. In the proposed model, empathy was specified as an exogenous latent variable measured by the 11-item EQS, while constructive communication (F1) and

communication barriers (F2) were specified as endogenous latent variables derived from the CSI. MLR estimation was employed to account for non-normality. Error covariances identified in prior CFAs were retained in the measurement model. The model demonstrated an acceptable fit to the data ($\chi^2/df = 1.95$; $p < 0.001$; RMSEA = 0.047; 90% CI [0.043; 0.050]; SRMR = 0.055), while CFI (0.896) and TLI (0.889) indicated a marginal but acceptable fit given model complexity.

All factor loadings for the empathy construct ranged between 0.642 and 0.849 and were statistically significant ($p < 0.001$), with R^2 values between 0.412 and 0.721. Similarly, for constructive communication, standardized loadings ranged from 0.537 to 0.761, all exceeding acceptable thresholds ($p < 0.001$), with R^2 values between 0.288 and 0.580. For communication barriers, standardized loadings ranged from 0.483 to 0.633, and all loadings were statistically significant ($p < 0.001$), with R^2 values between 0.233 and 0.400.

Table 8: Standardized structural path coefficients

Structural Path	β	S.E.	t	p	95% CI
Empathy → Constructive Communication (F1)	0.516	0.062	8.344	< 0.001	[0.409; 0.794]
Empathy → Communication Barriers (F2)	0.083	0.062	1.337	0.181	[−0.040; 0.206]

Note. β=standardized path coefficient (STDYX); S.E.=standard error; CI=confidence interval. Estimation method: MLR.

As presented in Tab. 8, empathy significantly predicted constructive communication ($\beta = 0.516$; $t = 8.34$; $p < 0.001$), indicating that higher levels of empathy are associated with higher levels of constructive communication. In contrast, the effect of empathy on communication barriers was not statistically significant ($\beta = 0.083$; $t = 1.34$; $p = 0.181$).

Overall, the SEM results indicate that empathy was a moderate and statistically significant predictor of constructive communication ($R^2 = 0.266$), whereas it did not directly predict communication barriers. In other words, empathy contributed to communication processes primarily by strengthening constructive communication rather than by reducing communication barriers.

4. Discussion

In this research, empathy and communication skills were investigated among pre-service teachers in terms of the levels, demographic differences, relationships, and structural associations. Accordingly, the findings showed generally high levels of empathy and communication skills among the participants, along with constructive communication at a high level and communication barriers closer to the moderate threshold. Most importantly, empathy was moderately and positively associated with constructive communication and significantly predicted it in the structural model, whereas its relationship with communication barriers was not statistically significant. This suggests that empathy contributes more clearly to positive and constructive communication behaviors rather than to the direct reduction of communication barriers. Consistently, as Ahmetoglu and Acar (2016) indicated, empathy, social competence, and communication skills are part of pre-service teachers' professional and social development. This also aligns with the evidence that teacher empathy is connected with high-quality teacher-student interaction, particularly emotional support, in addition to student outcomes, although the empirical evidence is mixed and limited by reliance on self-report measures (Aldrup et al., 2022; Muller et al., 2020).

The confirmed structural path from empathy to constructive communication supports that empathic pre-service teachers are more likely to listen attentively, take others' perspectives

into account, and respond in supportive and respectful ways. In parallel, Palomera et al. (2017) positioned empathy within social awareness, including taking perspectives and recognizing individual and group differences, whereas Wiens et al. (2021) found that pre-service teachers' ability to identify interactions for effective teaching was related to the emotional and instructional support they demonstrated in observed classroom interactions. Likewise, Hu et al. (2023) revealed the effectiveness of video-based coaching on boosting pre-service teachers' teacher-child interaction competencies, particularly in the emotional support area. Furthermore, the model of teacher empathy developed by Meyers et al. (2019) aligned with these findings by conceptualizing empathy as a professional skill manifested in understanding students' contexts, caring responses, and pedagogical actions. Empathy and communication should not be viewed merely as individual dispositions but as interactional competencies that influence classroom relationships, student support, and instructional responsiveness.

Regarding the demographic results, female participants obtained significantly higher scores than their male counterparts in empathy, constructive communication, and communication barriers, which is consistent with the findings identified by Ahmetoglu and Acar (2016), in that female pre-service teachers reported higher empathy and communication skills. However, the higher reverse-coded scores of female participants on communication barriers should be interpreted cautiously, as they reflect self-reported perceptions of fewer barriers rather than objectively observed communication performance. The differences detected for departmental and year-of-study variables also suggest that communication skills may vary according to educational context and self-perceptions of pre-service teachers. For instance, pre-service teachers from the department of Turkish language teaching scored higher in communication, which is compatible with the emphasis made by Kana (2015) on communication in teacher education for language teachers, while the higher scores of first-year students may reflect initial confidence or less critical self-evaluation rather than actual developmental superiority. Since emotional and communication competencies may be developed through coursework, practicum, reflection, and field experiences, longitudinal evidence is needed to clarify whether these differences represent real developmental changes or only differences in self-perception (Cochran & Parker Peters, 2023).

However, empathy did not significantly predict communication barriers. Communication barriers may reflect more than the lack of empathy, resulting from psychological, social, linguistic, technical, and organizational factors. Kana (2015) emphasized that communication problems can arise from inaccurate message interpretation, insufficient language skills, prejudices, sociocultural differences, hierarchy, status differences, time pressure, information overload, and inadequate feedback. Therefore, empathy may help pre-service teachers communicate more constructively, but it may not be sufficient to overcome all the communication barriers. Similarly, as Celik and Alpan (2023) revealed, an effective communication course improved pre-service teachers' empathic tendency, but it did not significantly improve communication skills, which suggests that communication competence may require sustainable and practice-based training rather than short-term or isolated coursework. It is also compatible with the study by Karasova and Kleckova (2023) in that pre-service teachers could often identify effective communication responses to disruptive behavior more easily than they could produce such responses themselves, which indicates the need for repeated practice, feedback, and classroom-based applications.

5. Conclusion

This study concludes that empathy was found to be a selective predictor of communication skills among pre-service teachers. While empathy significantly supported constructive

communication, it did not directly predict communication barriers, which suggests that positive interpersonal sensitivity alone may not be sufficient to overcome the broader psychological, pedagogical, and organizational obstacles that shape communication in educational settings. The findings offer practical implications for both teacher education programs and educational administrators in supporting the development of empathy and communication competencies. Therefore, teacher education programs should integrate building empathy with explicit and sustainable communication training. Experiential and reflective interventions, including mindfulness and social and emotional learning with a focus on emotional intelligence, can strengthen socio-emotional and communication competencies, particularly when they include role-play, case studies, video analysis, portfolios, simulations, peer feedback, and collaborative learning (Celik & Alpan, 2023; Cochran & Parker Peters, 2023; Monroy Correa & Manzanal Martinez, 2025; Palomera et al., 2017). In addition, these competencies should be evaluated using performance-based assessment approaches and rubrics that emphasize observable communication behaviors, such as active listening, perspective-taking, constructive feedback, and respectful interaction, rather than relying solely on self-report measures.

Concerning educational administration, these findings suggest that empathy and communication competencies should be supported through structured mentoring, practicum, and feedback systems rather than left to individual teacher candidates or isolated coursework. At the same time, the development of these competencies may be constrained by organizational and contextual barriers, including limited mentorship, weak university-school partnerships, insufficient field support, and inadequate culturally responsive preparation (Cavendish et al., 2021; Warren, 2018). For future research, longitudinal and mixed-method designs should therefore be employed, combining self-report data with observational and performance-based assessments, and examining how empathy and communication develop across diverse practicum and cultural contexts (Monroy Correa & Manzanal Martinez, 2025; Muller et al., 2020). Overall, the findings suggest that preparing relationally competent teachers requires both individual socio-emotional development and broader pedagogical, organizational, and contextual support.

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