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# The Discipline of Connection: A Comparative Study of Professor-Student Relationships in Iranian Humanities and Hard Sciences

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## ABSTRACT

**Objective:** Professor–Student Relationships (PSRs) are a cornerstone of the higher education experience, yet their manifestation is shaped by disciplinary norms and cultural context. While the importance of PSRs is widely recognized, comparative research examining their multidimensional nature across academic disciplines within non-Western, hierarchical settings remains limited. This study aimed to compare Iranian undergraduate students' perceptions of PSRs across disciplines, focusing on emotional, social disposition, and moral–behavioral dimensions.

**Methods**: A comparative cross-sectional design was employed with Iranian undergraduate students from the humanities (n = 115) and hard sciences (n = 74). Data were collected online using a validated 30-item questionnaire based on Adolph's (2003) multidimensional framework (Cronbach's α = 0.96). Independent samples t-tests were conducted to examine disciplinary differences, and item-level analyses were performed to identify nuanced variations in expectations and perceptions.

**Results**: Overall, students in both disciplines reported positive perceptions of PSRs. Humanities students demonstrated a marginally more positive perception of professors' social disposition compared with hard science students (p = .059). Item-level analysis revealed subtle disciplinary differences, particularly regarding expectations for emotional engagement and collaborative learning practices.

**Conclusions**: The findings indicate that the salience of PSR dimensions is discipline-contingent, even within a shared cultural context that emphasizes respect for authority. Effective pedagogical strategies and faculty development initiatives in higher education should be tailored to disciplinary cultures to foster supportive and effective learning environments.

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## Introduction

Individuals who enter educational settings expect to improve with regard to both academic and social skills. The main characters, in a higher position compared to students, with whom students have more encounters in their studenthood and can be taken up as models by them, are teachers and professors whose personality traits, can change students' lives, even permanently in some cases, due to their influences on students' individual characteristics (e.g., Dong et al., 2020). In other words, Professor-Student Relationships (PSR) are central to the higher education experience, significantly shaping students' academic trajectories, personal growth, and lifelong learning commitment. A comprehensive examination indicates that positive PSRs extend beyond supportive benefits; they serve as transformative influences, profoundly enhancing students' educational outcomes and overall development. Studies indicate that supportive relationships with professors can increase student motivation by as much as thirty percent (e.g. Doskach et al., 2022). Beyond academics, these relationships provide important emotional support, intellectual stimulation, and professional mentorship, contributing significantly to student development (e.g. Maksimović & Zajić, 2021). Such meaningful interactions foster a sense of belonging in the educational environment, enhancing both motivation and academic achievement (e.g. Thacker et al., 2022). Consequently, it is imperative that institutions adopt targeted strategies to improve the quality of PSRs, as they are foundational for academic success and overall well-being (e.g., Sadeghi & Abolfazli, 2020).

In higher education, social disposition, moral behavior, and emotional behavior significantly influence PSRs and the quality of academic interactions (Adolph, 2003). Social disposition affects engagement dynamics, as approachable and cooperative professors foster inclusive environments that enhance student participation and learning outcomes, while detached or competitive professors may hinder open dialogue and student comfort (e.g. Hagenauer et al., 2014). Moral behavior, grounded in fairness and integrity, establishes the trust necessary for a safe learning environment, mitigating power imbalances that can lead to student disengagement (Simpurisio, 2022). Emotional behavior, through its expression of positivity or support, sets the affective tone of interactions, where professor enthusiasm can promote engagement while negative emotions may lead to alienation (Aldrup et al., 2022). These dimensions are particularly crucial in culturally diverse settings, yet existing literature lacks robust comparative studies on how they are prioritized

across distinct academic disciplines. This gap is salient, as disciplinary cultures embody unique "ways of thinking and practicing" (Entwistle, 2009) that likely shape relational expectations.

However, the characteristics of PSRs vary across academic disciplines, shaped by distinct cultural norms and pedagogical approaches. For instance, in humanities programs, a strong emphasis on open dialogue and collaborative learning fosters high student satisfaction rates, reaching up to eighty-five percent (e.g. Ho et al., 2023). Professors in these fields actively encourage students to express their views, cultivating a culture of inquiry that deepens engagement with the material. This environment is crucial for developing critical thinking skills and enhancing academic performance. In contrast, the hard sciences often prioritize technical skill development and structured problem-solving, resulting in lower student satisfaction, averaging around seventy percent (e.g. Tan et al., 2023). The emphasis on measurable outcomes and rigorous methodologies can restrict personal interactions, causing students to feel pressured to conform to established norms. Consequently, some students may perceive their professors as distant figures, leading to feelings of isolation and a lack of encouragement to seek help. Such disciplinary differences are pivotal in shaping students' perceptions of PSRs, directly impacting their motivation and satisfaction levels (e.g. Mollo, 2023). However, despite these recognized disciplinary distinctions, a critical lacuna exists in our understanding of how these differences manifest in the multidimensional aspects of PSRs—specifically emotional, social, and moral behaviors—within non-Western, hierarchical educational contexts like Iran.

To investigate these dynamics, this study employs Adolphs' (2003) multidimensional framework, which provides a comprehensive lens for understanding human interactions within educational settings. This framework highlights the social, strategic, and ecological dimensions of interactions, offering valuable insights into how various factors—such as cultural norms, instructional practices, and disciplinary contexts—affect PSRs. By mapping our focus dimensions—social disposition, moral behavior, and emotional behavior—onto this framework, we can conduct a more structured analysis of the relational dynamics in Iranian universities. Adolphs' theory is particularly relevant because it accommodates the complexity of interpersonal relationships within hierarchical structures, allowing for a detailed analysis essential for fostering positive student experiences in a context like Iran's.

A meta-analysis of PSR studies indicates that positive relationships contribute to improved student outcomes and indirectly enhance student retention rates. On the important role of emotions in learning environments, Haddad et al. (2023) found that difficulty in emotion regulation and self-efficacy had a directly significant effect on the amount of stress student feel by the educational expectations and in this way, the role of cognitive factors can be explained. In a further study, Haji (2021) states that positive learning emotions have significant positive effects on engagement and achievement, however, the cultural variations in some countries can lead to less effective strategies for improving PSRs if not adequately understood. For example, hierarchical values and expectations around respect and loyalty diverge significantly from the egalitarian norms prevalent in some contexts. Furthermore, research has shown that dimensions such as social disposition and moral behavior, typically associated with inclusivity, may manifest differently in a context governed by authority and hierarchy (e.g. Aldrup et al., 2022). Cultural expectations surrounding deference to authority can limit open communication, necessitating a careful understanding of PSRs (e.g. Simpurisio, 2022). Moreover, the empirical literature consistently links positive PSRs to enhanced student engagement, retention, and well-being (e.g. Mattanah et al., 2024).

In educational settings, disciplinary variations significantly shape PSRs, yet research has largely overlooked how these relational dynamics differ across fields. This gap is particularly salient given the call by Ashwin (2020) for a more nuanced understanding of how knowledge structures and disciplinary practices fundamentally shape educational experiences and relationships. For instance, students in scientific disciplines often prefer directive relationships that emphasize rigor and achievement, while those in the humanities value mentorship and dialogic engagement (Edwards & Ritchie, 2022). These disciplinary preferences, intensified by cultural norms, create unique relational dynamics within each field. From another perspective, Bergström's (2010) work on process-based instruction and assessment supports the idea that reflective, autonomous learning is beneficial, but in some areas, traditional practices like rote learning still prevail, which challenges the adoption of such approaches. Furthermore, recent research continues to underscore that the emotional dimension of teaching is not a soft skill but a core component of effective pedagogy. As Brown et al. (2022) highlight, students' perceptions of the emotional and interpersonal climate of the classroom are critical for their engagement in collaborative learning, a finding that invites further exploration across different disciplinary contexts.

Research comparing PSRs in the hard sciences and humanities further underscores the complexity of these relationships. Students in hard sciences, where academic rigor and task completion are emphasized, may benefit from a more directive approach to PSRs, fostering clarity and practical competence. A study by Pomaki et al. (2010) underscores this point, finding that instructor support was a more potent buffer against dropout intentions for engineering students compared to their peers in social sciences, highlighting the critical role these relationships play in demanding disciplines. Meanwhile, students in the humanities, particularly those under professors who integrate dialogic, mentorship-driven methods, experience both academic and personal support, promoting critical thinking and self-expression (e.g., Gandhi-Lee et al., 2017). These differences highlight the importance of adopting discipline-sensitive approaches to PSRs that respect both cultural and academic expectations, as students in each field have unique engagement needs that are influenced by the cultural context.

Iran's educational landscape is deeply influenced by its rich cultural and historical context, which plays a significant role in shaping the dynamics of PSRs. The Iranian culture emphasizes strong interpersonal bonds and communal values, which can foster a supportive academic environment. This cultural backdrop encourages students to view their professors not just as educators but as mentors and role models, enhancing the emotional and social dimensions of their relationships. The emphasis on respect and hierarchy in Iranian society can also contribute to a sense of mutual respect between students and professors, potentially strengthening the moral dimension of these relationships. For instance, studies have shown that in cultures where respect for authority is deeply ingrained, students tend to have more positive attitudes toward their professors. Recent qualitative studies in Iran have highlighted the importance of supportive relationships in educational settings, such as in clinical nursing education, where teachers are seen as support providers (e.g. Heydari et al, 2013). Additionally, research on teacher-student communication in medical sciences has underscored the role of sociocultural factors and adherence to moral values in shaping these relationships (e.g., Hamidizadeh et al., 2021). By examining these cultural and educational contexts, researchers can gain a deeper insight into how Iranian students' attitudes toward their professors are shaped by both traditional values and modern educational practices. On the other hand, as far as the Iranian context is concerned, cultural norms such as appreciation for the more knowledgeable, deeply influence PSRs, it was found that the expectation of deference

towards professors often creates barriers, with many students feeling hesitant to seek assistance. Research shows that sixty-five percent of Iranian students are reluctant to approach their professors for help (e.g. Balali, 2023). This reluctance is rooted in a cultural framework that values respect for authority, discouraging students from expressing uncertainty or asking questions. This dynamic can restrain meaningful dialogue and hinder the development of supportive PSRs. Additionally, prevailing narratives in education portray professors as authoritative figures whose knowledge is unquestionable, further complicating the quality of interactions. In general, existing literature often overlooks the intersectionality of cultural norms and academic disciplines, which is essential for comprehending their collective impact on student engagement and satisfaction (Mishra, 2020). This need for an intersectional understanding aligns with the argument by Ajjawi et al. (2025) that the 'relational turn' in higher education research must now grapple with the complex entanglement of structure, agency, and identity in student-staff partnerships. Also, the relational dynamics in hierarchical and culturally diverse contexts, remain underexplored (Hagenauer et al., 2014). In a study on examining Oxford's (2014) framework of wellbeing in English as a Foreign Language study programs in Iran, Abolfazli and Sadeghi (2023) found that from among the five elements in this model (i.e., positive emotions, engagement, relationships, meaning, and accomplishments), the relationships element was almost missing in students' and professors' histories and experiences of this program in Iran.

This research aims to address this gap by examining how cultural expectations and values shape PSRs within Iran's unique academic landscape, ultimately providing insights into professor-student interactions and enhancing educational practices that foster supportive learning environments. To achieve this, the study employs three dimensions of Adolphs' (2003) model, which includes social disposition, moral behavior, and emotional behavior. This framework allows for an in-depth analysis of relational dynamics, exploring how interpersonal and institutional influences converge to shape PSRs. Notably, Adolphs' model incorporates behaviors relevant to hierarchical educational cultures (Poitras Pratt & Gladue, 2022). By contextualizing PSRs within Iran's academic environment and investigating cultural and disciplinary dynamics through Adolphs' framework, this study directly addresses this significant research lacuna. The findings enhance our understanding of PSRs in complex educational systems shaped by unique cultural and disciplinary influences, ultimately providing practical recommendations for fostering effective

PSRs. This synthesis emphasizes the importance of a clear, evidence-based rationale for the research focus while articulating the study's unique contributions to the field. To address this issue, we quantitatively assessed the quality of relationships between faculty and students using a validated 30-item scale questionnaire, with a particular focus on the following research questions:

1. Is there any significant difference between hard sciences vs. humanities students' attitudes toward PSR in Iranian higher education in terms of their professors' emotional behavior?

2. Is there any significant difference between hard sciences vs. humanities students' attitudes toward PSR in Iranian higher education in terms of their professors' social dispositional behavior?

3. Is there any significant difference between hard sciences vs. humanities students' attitudes toward PSR in Iranian higher education in terms of their professors' moral behavior?

## Material and Methods

### Research design and Sample selection process

This study employed a quantitative research design to measure how humanities and hard sciences students perceive Professor-Student Relationships (PSRs) across emotional, social, and moral dimensions. This study was conducted among B.A. students at a public university in North Khorasan province, chosen due to the distinct challenges these students encounter during their transition from high school to university including navigating hierarchical classroom dynamics, adapting to disciplinary expectations, and managing limited faculty accessibility. The population was divided into two strata: humanities students (e.g., literature, history, and philosophy) and hard sciences students (e.g., engineering, physics, and mathematics). The selection of these two disciplinary clusters was guided by their well-documented epistemological divergence: humanities emphasize interpretive, dialogic knowledge construction, while hard sciences prioritize empirical, procedural, and cumulative knowledge systems (Becher & Trowler, 2001; Ashwin, 2020). This contrast provides a theoretically rich lens for exploring how relational expectations are shaped by disciplinary culture. The final sample included 189 students (115 from humanities and 74 from hard sciences), reflecting the actual enrollment distribution in Iranian public universities, where

humanities programs typically attract more students than STEM fields at the undergraduate level, ensuring adequate representation for comparative analysis, based on availability and alignment with the study's aims. Participants were predominantly Persian (92%), with small numbers of Turkmen, Kurdish, and other ethnic minorities reflecting the regional demographics of North Khorasan. Most students came from lower- to middle-income families and were the first in their families to attend university, highlighting sociocultural factors that may influence help-seeking behaviors and perceptions of authority. The age of participants ranged from 18 to 23, with an average age of 20.58 years. All statistical comparisons used independent-samples t-tests, which automatically adjust for unequal group sizes in variance estimation (via Welch's correction when homogeneity assumptions are violated).

**Data collection tool**

This study utilized a modified version of a researcher-developed PSR questionnaire, comprising 30 items. The questionnaire was adapted to capture the nuances of PSRs specific to Iranian higher education. The three dimensions, emotional, social disposition, and moral behavior, were chosen based on Adolphs' (2003) multidimensional framework, as well as literature on PSRs emphasizing the importance of emotional and social support, goal-oriented interactions, and moral practices. The questionnaire was validated through a pilot study with a separate sample. The validity and reliability of the questionnaire were rigorously assessed to ensure the quality of the data. Content validity was established through a panel of five experts in educational psychology and higher education, who reviewed the questionnaire for relevance, clarity, and comprehensiveness. Their feedback was used to refine the items and ensure alignment with the study's objectives. Reliability was evaluated using Cronbach's alpha coefficient to measure internal consistency. The results indicated high reliability for all dimensions: emotional ($\alpha = 0.89$), social ($\alpha = 0.87$), and moral ($\alpha = 0.91$).

**Data collection Procedure**

Data collection took place on-line during the fall semester of the university year, using Porseline administration software and the Telegram messaging platform. Telegram was chosen for its accessibility among Iranian students, while Porseline provided a secure, organized structure for data management, enhancing response accuracy and participant convenience. Before participation, all students received an informed consent form detailing the voluntary nature of the study, the

confidentiality of their responses, and the measures taken to ensure anonymity. Specifically, no personal identifiers were collected, and responses were coded numerically to protect participant identity. Data was stored on encrypted servers, accessible only to the primary researchers, ensuring compliance with ethical guidelines on data confidentiality.

**Data Analysis**

The collected data were analyzed using SPSS software (version 26). Descriptive statistics (e.g., means, standard deviations) were used to describe the data in an efficient way, while independent samples t-tests were conducted to examine significant differences in attitudes toward PSRs between students in the Hard Sciences and Humanities disciplines. This statistical method was selected due to its appropriateness for comparing means between two independent groups, allowing for a clear assessment of potential variations in students' perceptions based on their academic field.

## Results

Prior to conducting inferential analyses, the assumptions of normality, homogeneity of variance, and sphericity were tested. All measures were found to meet the criteria for normality. The Kolmogorov-Smirnov test confirmed that homogeneity was satisfied for the PSR scale, with values of 0.9 for students. Therefore, parametric analyses were deemed appropriate for this study.

A comparison was made between the total PSR scores of students in hard sciences and humanities using an independent-samples *t*-test (Table 1 and 2). The results showed no significant difference in attitudes between hard sciences (M = 83.35, SD = 12.08) and humanities students (M = 84.06, SD = 9.70). The mean difference was found to be -0.70, with a 95% confidence interval of -3.85 to 2.43, indicating a very small effect size (eta squared = 0.001).

Table 1 displays descriptive statistics for total PSR scores by discipline. Humanities students reported a slightly higher mean (M = 84.06, SD = 9.70) than hard sciences students (M = 83.35, SD = 12.08), though this difference was not statistically significant.

**Table 1**
Group statistics for hard sciences and humanities students' attitudes towards total PSR

| Group Statistics | | | | | |
|---|---|---|---|---|---|
| | Field of study | N | Mean | Std. Deviation | Std. Error Mean |
| TOTAL RELATIONSHIP | Hard Sciences | 74 | 83.3514 | 12.08694 | 1.40508 |
| | Humanities | 115 | 84.0609 | 9.70105 | .90463 |

Table 2 presents the independent-samples t-test results for total PSR. The non-significant p-value (p = .657) indicates that overall perceptions of PSR quality do not differ meaningfully between the two groups.

**Table 2**
Independent samples t-test for humanities and hard sciences students' attitudes towards PSR

| Independent Samples Test | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| TOTAL RELATIONSHIP | Equal variances assumed | 1.508 | .221 | -.445 | 187 | .657 | -.70952 | 1.59399 | -3.85403 | 2.43500 |
| | Equal variances not assumed | | | -.425 | 131.584 | .672 | -.70952 | 1.67111 | -4.01523 | 2.59619 |

Three independent-sample *t*-tests (Tables 3 and 4) revealed no significant difference between students in the humanities faculty (M = 28.85, SD = 3.64) and their peers in the hard sciences faculty (M = 28.40, SD = 4.99) in terms of their relationships with and attitudes towards the emotional behaviors of their professors. Also, no significant difference was found between students in the humanities faculty (M = 32.13, SD = 4.17) and their peers in the hard sciences faculty (M = 30.85, SD = 4.99) in terms of their relationships with and attitudes toward the social disposition of their professors. Finally, no significant difference was found between students in the humanities faculty (M = 23.07, SD = 7.39) and their peers in the hard sciences faculty (M =

24.09, SD = 7.97) in terms of their relationships with and attitudes toward the moral behaviors of their professors. Albeit as regards the second dimension, i.e., social disposition, the significance of the difference between the mean scores of the two groups was .059, which can be regarded as somehow significant and in favour of humanities students. Table 3 shows mean scores for the three PSR dimensions. Notably, humanities students scored higher on social disposition (M = 32.13 vs. 30.85), though differences in emotional and moral behavior were negligible.

**Table 3**
Group statistics for hard sciences vs humanities students' attitudes towards the three dimensions of PSR

| Group Statistics | | | | | |
|---|---|---|---|---|---|
| | Field of study | N | Mean | Std. Deviation | Std. Error Mean |
| emotional behaviors | Hard Sciences | 74 | 28.4054 | 4.99292 | .58042 |
| | Humanities | 115 | 28.8522 | 3.64245 | .33966 |
| social disposition | Hard Sciences | 74 | 30.8514 | 4.99502 | .58066 |
| | Humanities | 115 | 32.1304 | 4.17075 | .38892 |
| moral behaviors | Hard Sciences | 74 | 24.0946 | 7.97972 | .92762 |
| | Humanities | 115 | 23.0783 | 7.39268 | .68937 |

Table 4 confirms that only social disposition approached significance (p = .059), suggesting a disciplinary trend worth further exploration.

**Table 4**
Independent samples *t*-test for hard sciences vs humanities students' attitudes towards the three dimensions of PSR

| Independent Samples Test | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| emotional behaviors | Equal variances assumed | 2.274 | .133 | -.710 | 187 | .478 | -.44677 | .62910 | -1.68781 | .79427 |
| | Equal variances not assumed | | | -.664 | 122.371 | .508 | -.44677 | .67250 | -1.77800 | .88446 |
| social disposition | Equal variances assumed | 1.622 | .204 | -1.903 | 187 | .059 | -1.27908 | .67219 | -2.60512 | .04696 |
| | Equal variances not assumed | | | -1.830 | 135.703 | .069 | -1.27908 | .69888 | -2.66118 | .10301 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| moral behaviors | Equal variances assumed | .099 | .753 | .894 | 187 | .372 | 1.01633 | 1.13667 | -1.22600 | 3.25867 |
| | Equal variances not assumed | | | .879 | 147.157 | .381 | 1.01633 | 1.15573 | -1.26764 | 3.30031 |

The study utilized independent-samples t-tests to compare students' scores on individual items from the questionnaire, as presented in Tables 5 and 6. While item-level comparisons provide granular insight into specific relational behaviors, such analyses may lack theoretical depth without qualitative interpretation. Future mixed-methods work may explore the lived meanings behind these perceptions. For now, the authors retain these analyses to illustrate patterns that, while not all statistically significant, collectively inform disciplinary differences in relational expectations. Tables 5 reveals item-level comparisons between the two groups as regards descriptive statistics.

**Table 5**
Group statistics for hard sciences vs humanities students' attitudes towards individual items of PSR

Group Statistics

| | Field of study | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| The professor cannot control her stress in the teaching process. | | 74 | 2.00 | .922 | .107 |
| | | 115 | 1.94 | .809 | .075 |
| It is boring for the professor to answer my questions. | | 74 | 2.18 | 1.090 | .127 |
| | | 115 | 2.13 | .884 | .082 |
| The professor feels tired and disgusted in doing her work activities. | | 74 | 2.22 | 1.162 | .135 |
| | | 115 | 2.15 | .891 | .083 |
| The professor is happy to work with the student. | | 74 | **3.89** | 1.015 | .118 |
| | | 115 | **3.92** | .774 | .072 |
| The professor feels happy when the student's scientific activities are going well. | | 74 | **4.04** | .867 | .101 |
| | | 115 | **4.30** | .688 | .064 |
| The professor gets angry when the student does not respond to her feedback and guidance. | | 74 | 2.72 | 1.054 | .122 |
| | | 115 | 2.90 | .902 | .084 |
| The professor is happy to receive comprehensive and detailed answers to the scientific assignments from the student. | | 74 | **3.95** | .905 | .105 |
| | | 115 | **4.28** | .629 | .059 |
| Due to the lack of proper feedback, working with the professor wastes the student's energy. | | 74 | 2.96 | 1.078 | .125 |
| | | 115 | 2.93 | 1.098 | .102 |
| When there is any misunderstanding, she shouts at the student. | | 74 | 2.03 | .965 | .112 |
| | | 115 | 1.92 | .947 | .088 |
| I feel that the teacher's bad mood is due to her personal and family issues. | | 74 | 2.43 | 1.035 | .120 |
| | | 115 | 2.39 | 1.106 | .103 |
| The professor gives more importance to group learning. | | 74 | **3.54** | 1.036 | .120 |
| | | 115 | **3.70** | 1.044 | .097 |
| The professor designs the lessons according to the interests of the students. | | 74 | 2.96 | 1.140 | .133 |
| | | 115 | **3.07** | 1.082 | .101 |
| The professor considers the student's critical comments about her feedback. | | 74 | **3.34** | 1.101 | .128 |
| | | 115 | **3.57** | 1.019 | .095 |
| | | 74 | **3.57** | 1.061 | .123 |

| | | | | |
|---|---|---|---|---|
| The professor is interested in knowing the student's opinions about the presented materials and academic assignments. | 115 | **3.82** | .874 | .082 |
| The professor encourages the student to share the results obtained from scientific activities in scientific conferences and journals. | 74 | **3.36** | .885 | .103 |
| | 115 | **3.66** | .954 | .089 |
| The professor guides the student only when she is in a critical situation. | 74 | 2.50 | 1.010 | .117 |
| | 115 | 2.54 | .967 | .090 |
| The professor gives priority to students who are late in delivering class projects compared to others. | 74 | 2.47 | .780 | .091 |
| | 115 | 2.80 | .920 | .086 |
| When the student brings up something, the professor welcomes it with enthusiasm. | 74 | **3.62** | .932 | .108 |
| | 115 | **3.90** | .783 | .073 |
| While teaching or giving feedback, the professor is indifferent to the student. | 74 | 2.27 | .880 | .102 |
| | 115 | 2.10 | .852 | .079 |
| The master expresses her personal emotions and feelings easily. | 74 | **3.22** | .983 | .114 |
| | 115 | 2.97 | .932 | .087 |
| When it is difficult to understand the teaching material, the teacher makes fun of the student. | 74 | 2.24 | 1.070 | .124 |
| | 115 | 2.24 | 1.113 | .104 |
| The professor behaves insultingly with the student's writings and activities. | 74 | 2.15 | 1.002 | .117 |
| | 115 | 1.99 | 1.022 | .095 |
| The professor ignores the student's personal problems during her studies. | 74 | 2.81 | 1.178 | .137 |
| | 115 | 2.63 | 1.142 | .106 |
| The professor answers the messages received from the student's activities with a long delay. | 74 | 2.81 | 1.106 | .129 |
| | 115 | 2.59 | 1.083 | .101 |
| The teacher was late in the classroom. | 74 | 2.28 | 1.041 | .121 |
| | 115 | 2.22 | 1.090 | .102 |
| Most of the time when the student needs guidance, the teacher is not available. | 74 | 2.53 | 1.113 | .129 |
| | 115 | 2.44 | 1.149 | .107 |
| The teacher usually finishes the lesson and leaves the class before the legal teaching time. | 74 | 2.00 | .891 | .104 |
| | 115 | 2.01 | .903 | .084 |
| The professor appears in the entire feedback process without prior preparation. | 74 | 2.20 | .906 | .105 |
| | 115 | 2.10 | .842 | .078 |
| The professor discriminates in the process of grading students. | 74 | 2.77 | 1.177 | .137 |
| | 115 | 2.65 | 1.221 | .114 |
| When a student goes to the professor's office without prior appointment for guidance, she is met with an insulting reaction. | 74 | 2.30 | 1.017 | .118 |
| | 115 | 2.19 | .981 | .092 |

*Note: (The first row shows "Hard Sciences" and the second row shows "Humanities" Fields of Study, as in Table 3)*

While most individual items showed no significant differences, several revealed meaningful patterns: humanities students were significantly more likely to agree that professors "feel happy when students' scientific activities go well" ($p = .026$), "encourage conference participation" ($p = .034$), and "give priority to late students" ($p = .012$), behaviors aligning with dialogic, student-centered norms (Table 6).

**Table 6**
Independent samples t-test for humanities vs. hard sciences students' attitudes towards individual items of PSR

| | | Independent Samples Test | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference Lower |
| The professor cannot … | | 1.839 | .177 | .478 | 187 | .633 | .061 | .127 | -.190 |
| | | | | .465 | 141.098 | .643 | .061 | .131 | -.198 |
| It is boring … | | 3.016 | .084 | .313 | 187 | .755 | .045 | .144 | -.240 |
| | | | | .299 | 132.638 | .765 | .045 | .151 | -.254 |
| The professor feels … | | 7.151 | .008 | .456 | 187 | .649 | .068 | .150 | -.227 |
| | | | | .431 | 127.047 | .667 | .068 | .159 | -.245 |
| The professor is … | | 5.763 | .017 | -.229 | 187 | .819 | -.030 | .131 | -.287 |
| | | | | -.216 | 126.555 | .829 | -.030 | .138 | -.303 |
| The professor feels … | | .081 | .776 | -2.244 | 187 | **.026** | -.255 | .114 | -.479 |
| | | | | -2.135 | 130.415 | .035 | -.255 | .119 | -.491 |
| The professor gets … | | 3.622 | .059 | -1.249 | 187 | .213 | -.179 | .144 | -.463 |
| | | | | -1.208 | 138.379 | .229 | -.179 | .149 | -.473 |
| The professor is … | | 1.723 | .191 | -2.978 | 187 | **.003** | -.332 | .112 | -.552 |
| | | | | -2.759 | 118.124 | .007 | -.332 | .120 | -.571 |
| Due to the … | | .067 | .795 | .179 | 187 | .858 | .029 | .162 | -.292 |
| | | | | .179 | 157.901 | .858 | .029 | .162 | -.291 |
| When there is … | | .118 | .731 | .740 | 187 | .460 | .105 | .142 | -.175 |
| | | | | .738 | 153.772 | .462 | .105 | .143 | -.177 |
| I feel that … | | .736 | .392 | .256 | 187 | .798 | .041 | .161 | -.276 |
| | | | | .260 | 163.255 | .796 | .041 | .158 | -.272 |
| The professor gives … | | .122 | .727 | -1.000 | 187 | .319 | -.155 | .155 | -.461 |
| | | | | -1.001 | 156.746 | .318 | -.155 | .155 | -.461 |
| The professor designs … | | .103 | .748 | -.669 | 187 | .505 | -.110 | .165 | -.435 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | -.661 | 149.893 | .510 | -.110 | .167 | -.439 |
| The professor considers … | | .704 | .403 | -1.451 | 187 | .149 | -.227 | .157 | -.537 |
| | | | | -1.426 | 146.952 | .156 | -.227 | .159 | -.542 |
| The professor is … | | 6.260 | .013 | -1.762 | 187 | .080 | -.250 | .142 | -.530 |
| | | | | -1.690 | 134.335 | .093 | -.250 | .148 | -.542 |
| The professor encourages … | | .160 | .690 | -2.141 | 187 | **.034** | -.296 | .138 | -.569 |
| | | | | -2.177 | 164.233 | .031 | -.296 | .136 | -.565 |
| The professor guides … | | .481 | .489 | -.267 | 187 | .790 | -.039 | .147 | -.328 |
| | | | | -.264 | 150.859 | .792 | -.039 | .148 | -.332 |
| The professor gives … | | .399 | .529 | -2.529 | 187 | **.012** | -.327 | .129 | -.582 |
| | | | | -2.620 | 173.202 | .010 | -.327 | .125 | -.573 |
| When the student … | | 5.705 | .018 | -2.247 | 187 | .026 | -.283 | .126 | -.531 |
| | | | | -2.164 | 136.403 | **.032** | -.283 | .131 | -.541 |
| While teaching or … | | .904 | .343 | 1.290 | 187 | .199 | .166 | .129 | -.088 |
| | | | | 1.281 | 152.104 | .202 | .166 | .130 | -.090 |
| The master expresses … | | .781 | .378 | 1.708 | 187 | .089 | .242 | .142 | -.038 |
| | | | | 1.688 | 149.726 | .093 | .242 | .144 | -.041 |
| When it is … | | .005 | .942 | -.001 | 187 | .999 | .000 | .163 | -.323 |
| | | | | -.001 | 160.240 | .999 | .000 | .162 | -.320 |
| The professor behaves … | | 1.173 | .280 | 1.041 | 187 | .299 | .157 | .151 | -.141 |
| | | | | 1.045 | 157.992 | .297 | .157 | .151 | -.140 |
| The professor ignores … | | .155 | .694 | 1.022 | 187 | .308 | .176 | .172 | -.164 |
| | | | | 1.015 | 152.286 | .312 | .176 | .173 | -.167 |
| The professor answers … | | .052 | .821 | 1.348 | 187 | .179 | .220 | .163 | -.102 |
| | | | | 1.342 | 153.461 | .182 | .220 | .164 | -.104 |
| The teacher was … | | .031 | .860 | .416 | 187 | .678 | .066 | .160 | -.249 |
| | | | | .420 | 161.114 | .675 | .066 | .158 | -.246 |
| Most of the … | | .044 | .833 | .494 | 187 | .622 | .084 | .169 | -.250 |
| | | | | .497 | 159.385 | .620 | .084 | .168 | -.248 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| The teacher usually … | | .257 | .613 | -.065 | 187 | .948 | -.009 | .134 | -.273 |
| | | | | -.065 | 157.341 | .948 | -.009 | .134 | -.272 |
| The professor appears … | | .873 | .351 | .761 | 187 | .448 | .098 | .129 | -.157 |
| | | | | .749 | 147.426 | .455 | .098 | .131 | -.161 |
| The professor discriminates … | | .461 | .498 | .658 | 187 | .511 | .118 | .179 | -.236 |
| | | | | .663 | 160.045 | .508 | .118 | .178 | -.233 |
| When a student … | | .453 | .502 | .715 | 187 | .476 | .106 | .148 | -.187 |
| | | | | .709 | 151.825 | .479 | .106 | .149 | -.189 |

*Note: (The first row shows "Equal variances assumed" and the second row shows "Equal variances not assumed", as in Tables 2 and 4). The whole items are given in Table 5.*

To put it in a nutshell, students disagreed with the statements which conveyed the professor cannot control her stress, feels bored answering questions, is disgusted in doing her work, gets angry when students do not reply questions, shouts at students when they misunderstand, just guides students when there is a critical issue, gives priority to those students who are late, is indifferent when teaching, makes fun of the students when they face difficulty, behaves insultingly, ignores students' problems, answers students with long delay, is late in class, is not available, leaves the class before the legal time, is not prepared prior to the class, discriminates when grading students, insults students in the case of unplanned meetings, and it is a waste of time to work with professors due to lack of feedback, professors' bad mood is due to her personal issues. However, they somehow agreed with the professors being happy to work with students, feeling happy when students do well with their activities, being happy to receive comprehensive answers to her questions, giving more importance to group learning, considering students' critical comments, being interested in knowing students' opinions about the materials, encouraging students to present in conferences, and welcoming new ideas from the students.

While there was a marginally significant difference ($p = .059$) between the two groups in terms of social disposition, favoring humanities students, it can be inferred that humanities students were more likely than their hard sciences counterparts to agree that professors' bad mood is due to their personal issues, that he/she gives more importance to group learning, designs lessons according to the interests of students, considers students' critical comments, is interested in students' opinions

about the materials, encourages students to present in conferences, guides students only in the case of critical situations, gives priority to students who are late, welcomes new ideas from the students, is indifferent to students, and expresses her emotions easily.

## Discussion

This study demonstrates that Professor-Student Relationships (PSRs) in the Iranian higher education context are shaped by the interaction of disciplinary epistemologies and cultural norms of authority. Our quantitative findings show that while overall PSR perceptions are similarly positive across disciplines, humanities students reported marginally higher perceptions of professorial social disposition ($p = .059$), with no significant differences in emotional or moral dimensions. These results do not support broad claims about discipline-driven "cultures of connection" (Entwistle, 2009) but suggest subtle, contextually embedded variations worthy of deeper exploration (Ashwin, 2020). The disciplinary context acts not merely as a backdrop but as an active constitutive force that shapes relational expectations, priorities, and the very meaning assigned to interpersonal behaviors in educational settings.

Importantly, our data did not reveal significant differences in emotional behavior between groups, contrary to assumptions that humanities students would rate this dimension more highly. Operating within a constructivist paradigm where knowledge is co-constructed through dialogue, the humanities require intellectual risk-taking, for which emotional support functions as essential pedagogical scaffolding (Becher & Trowler, 2001). It creates the psychological safety necessary for students to develop and voice their scholarly identity. This aligns with research showing that instructor care in seminar-based courses is directly linked to student confidence in articulating complex arguments (Savina et al., 2025). The emotional dimension here is not ancillary but central to the epistemic process itself—the courage to offer an interpretation is as important as the interpretation itself.

In contrast, the hard sciences' positivist, cumulative epistemology prioritizes mastery of complex systems and methodologies (Tan et al., 2023). Here, faculty approachability is valued more instrumentally—for its role in reducing anxiety and fostering persistence through demanding problem-solving tasks (Chen et al., 2022). This divergence demonstrates that professor emotionality is epistemologically mediated: integral to the *process of knowing* in the humanities,

while being supportive of the *process of doing* in the hard sciences. This distinction helps explain why standardized student evaluations of teaching often fail to capture disciplinary nuances; what constitutes "excellent support" in a physics lab differs fundamentally from its manifestation in a poetry workshop.

The attitude of humanities students to give importance to social disposition points to distinct apprenticeship models. The socialization of a humanities scholar is deeply personal and dialogic, necessitating a relational model where mentorship and the development of a scholarly voice are central (Nowell, 2022; Lorenzetti et al., 2020). Behaviors like welcoming student ideas or encouraging conference participation are not mere amenities; they are the core mechanisms of socialization into a community of practice (Lave & Wenger, 1991). This aligns with conceptualizations of the "dialogic apprenticeship" central to formative fields (Barnett, 2023), where the relationship itself becomes a primary medium through which disciplinary values are transmitted and embodied.

Conversely, the hard sciences apprenticeship often focuses on technical skill acquisition, methodological rigor, and lab integration (Gandhi-Lee et al., 2017). The primary relational currency here is demonstrable competence and clear procedural guidance. This is illustrated by findings that science students prioritize the clarity and timeliness of feedback over personal rapport with the provider (Nicol& Selvaretnam 2022). Thus, the "social" dimension enacts the specific form of socialization required by the disciplinary tribe—into a *discourse* in the humanities versus into a *practice* in the hard sciences. This crucial difference suggests that efforts to improve PSRs must recognize that "being social" takes different forms: in one context it means creating intellectual community, while in another it means ensuring reliable access to expert guidance.

The equal, high valuation of moral behavior across disciplines confirms its status as a universal foundation for trust and legitimacy (Simpurisio, 2022). However, its interpretation is inflected by epistemic norms in ways that carry significant implications for classroom climate and student experience.

In the hard sciences, where objectivity and reproducibility are paramount, moral behavior is often viewed through a lens of procedural justice—impartial grading, methodological transparency, and adherence to ethical codes. This aligns with concepts of "ethical feedback" that prioritize transparency to maintain scientific integrity (Poitras Pratt & Gladue, 2022). A professor's moral

standing in this context is built through consistent, predictable application of rules and standards, creating a learning environment where the "rules of the game" are clear and fairly enforced.

In the humanities, where knowledge is perspectival, moral behavior extends into pedagogical ethics. It encompasses respect for diverse viewpoints and the nurturing of a student's intellectual autonomy. This connects to findings that a student's perception of "interactional justice" from instructors is a key predictor of their critical thinking motivation and sense of belonging (Froman & Cochran, 2022). Here, morality is demonstrated through the professor's capacity to honor multiple truths while guiding students toward more sophisticated interpretations. The shared value of "morality" is thus operationalized differently, aligning with the core ethical demands of each knowledge domain and creating distinct classroom atmospheres—one where fairness means consistent application of standards, another where it means respectful engagement with diverse perspectives.

While disciplinary culture provides a powerful explanatory framework, it intersects crucially with other contextual layers that merit consideration. The material conditions of academic work—including class sizes, funding structures, and institutional priorities—create enabling or constraining environments for the ideal PSRs described in our model. A humanities professor teaching 200 students in a required general education course faces structural barriers to implementing the "dialogic apprenticeship" ideal, just as a science professor without adequate laboratory support may struggle to provide the meticulous supervision the discipline values. As Ebrahimi et al. (2023) suggest, reducing excessive job stressors and ensuring manageable teaching loads are prerequisite conditions for professors to cultivate the nuanced relationships our findings show students value. This highlights that relational quality is not merely an individual responsibility but an institutional one, requiring alignment between disciplinary ideals and structural supports.

Theoretically, this study refines multidimensional frameworks like Adolph's (2003) by showing their dimensions are dynamically weighted by disciplinary context. We do not claim to have developed a new “Epistemologically-Grounded Relational Model” in this study; rather, our findings invite future research to test such theoretical extensions which offers explanatory power for *why* relational expectations differ. This represents a significant advance beyond merely documenting that differences exist toward explaining their underlying logic and patterns.

Practically, this demands a decisive shift from one-size-fits-all faculty development toward cultivating "Disciplinary Relational Competence." For humanities faculty, development should focus on advanced mentoring, facilitating difficult dialogues, and providing feedback that nurtures a scholarly voice without imposing the professor's own interpretive framework. For hard sciences faculty, training could emphasize creating inclusive lab dynamics, providing structured mentorship, and mastering the delivery of high-quality, efficient feedback that students perceive as instrumental to their growth. Furthermore, this study's focus on Iran fills a critical gap in global PSR research, which remains overwhelmingly Western-centric (Brwon et al., 2022. By demonstrating how Iranian cultural values (e.g., respect for authority) interact with disciplinary epistemologies, our findings caution against exporting Western PSR models uncritically. Instead, they advocate for "glocalized" relational frameworks that honor both local cultural logics and disciplinary traditions—a contribution with implications for higher education systems across the Global South.

This nuanced approach ensures relational strategies are seen as an extension of disciplinary values, increasing their adoption and effectiveness (Bryan & Guccione, 2018). Furthermore, institutions should consider developing discipline-sensitive student evaluation instruments and providing the structural supports—like manageable workloads and undergraduate research opportunities—necessary for these relationships to flourish. The policy implication is clear: evaluating and supporting PSRs requires disciplinary nuance rather than standardized metrics.

This study has several limitations that open avenues for future inquiry. First, while our sample reflects real enrollment patterns, the unequal group sizes and single-region focus (North Khorasan) limit generalizability. Replication across multiple Iranian provinces and institutions is needed. Second, the quantitative design captures perceptions but not the lived dynamics of PSRs; future mixed-methods studies combining surveys with classroom observations or interviews could reveal how these relational expectations unfold in practice (Hagenauer & Volet, 2014). Third, we compared only two disciplinary poles; including social sciences (a potential "bridge" discipline) might uncover hybrid relational models. Fourth, our instrument, though validated, was originally developed in a Western context; future work should co-construct culturally grounded PSR measures with Iranian faculty and students. Finally, longitudinal designs could track how PSRs evolve across students' academic trajectories and influence outcomes like retention, identity

formation, or career choices, particularly vital in high-stress fields like engineering. Comparative research across different national higher education systems could disentangle disciplinary effects from cultural influences. Intervention studies can assess the efficacy of "Disciplinary Relational Competence" training on both student outcomes and faculty satisfaction.

**Conclusion**

This research demonstrates that Professor–Student Relationships (PSRs) are not generic interactions but are deeply co-constructed by the interplay of disciplinary epistemology and cultural context. In the Iranian setting, where hierarchical values coexist with diverse academic practices, students across humanities and hard sciences share baseline expectations for moral behavior (e.g., fairness, integrity), yet diverge subtly in their valuing of social disposition, reflecting their fields' distinct socialization goals. For humanities students, relationships serve as dialogic spaces for identity and voice development; for hard sciences students, they function more instrumentally as pathways to methodological mastery and practical support.

These findings carry significant implications. First, they challenge one-size-fits-all faculty development programs, advocating instead for "disciplinary relational competence", training tailored to each field's unique relational logic. Second, they underscore the need for culturally and disciplinarily sensitive PSR assessment tools in student evaluations. Third, they highlight an institutional responsibility: fostering quality PSRs requires not just individual effort but structural supports (e.g., manageable workloads, mentorship time) that enable relational engagement.

Most broadly, this study contributes to a paradigm shift in higher education research: away from universal metrics of "good teaching" and toward contextually embedded understandings of relational excellence. In an increasingly globalized academy, such nuanced perspectives are essential for building inclusive, effective, and culturally responsive learning environments worldwide. Future work should build on this foundation to explore how PSRs in non-Western contexts can inform, and transform, global educational theory and practice. By centering the analysis on Iran, a hierarchical, non-Western context rarely represented in global PSR literature, this research contributes cross-cultural nuance to dominant Western models, demonstrating that disciplinary epistemologies interact with local cultural values to co-construct relational norms. This challenges universalist assumptions in higher education policy and invites global scholars to consider context-sensitive relational frameworks.

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**Data availability statement**

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

**Ethics statement**

The studies involving human participants were reviewed and approved by the ethics committee of Kosar University of Bojnord. The patients/participants provided their written informed consent to participate in this study.

**Author contributions**

All authors contributed to the study conception and design, material preparation, data collection, and analysis. All authors contributed to the article and approved the submitted version.

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**Conflict of interest**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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