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# A Multidimensional Model of Student-Teacher Relationship in Higher Education

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## Abstract

Student-teacher relationships constitute a critical yet underexplored dimension of higher education, particularly from the teacher perspective. This qualitative study employs inductive thematic analysis to examine which dimensions constitute quality student-teacher relationships and identify contributing factors. Data were collected from 153 university teachers at the University of Zagreb, spanning across all scientific and artistic fields, through open-ended questionnaire responses. Following Braun and Clarke's six-step framework, responses were coded using Taguette (ver. 1.5.2-3-gf706e2e) for the generation of initial codes. Analytical rigour was supported through an audit trail of coding decisions, reflexive self-awareness of the researcher's interpretive positioning, and iterative theme development assessed for richness and coherence. The analysis revealed a four-dimensional model: (1) Teacher Dimensions - personal qualities, engagement, enthusiasm, and genuine interest in students; (2) Student Dimensions - characteristics, engagement, and motivation; (3) Mediators - course content, classroom climate, teacher workload, student workload, group dynamics, generational characteristics, and reciprocity; and (4) Transformative Factors - pedagogical strategies teachers actively deploy to reshape contextual conditions (Mediators) into relationship-supportive elements, including active learning, anecdotes, humour, feedback, clear expectations, pause/digression, balance. Teachers recognise the reciprocal nature of relationship-building and their role in student-centred learning. The model's novelty lies in integrating stakeholder dimensions with contextual factors. Findings carry practical implications for faculty development programmes aimed at strengthening transformative teaching strategies. Limitations include single-coder analysis and convenience sampling; future research should incorporate student perspectives and empirically validate the model across diverse samples.

**Keywords:** qualitative methodology, thematic analysis, educational relationship, teacher perspective, student-centred learning

# 1 Introduction

Interpersonal relationships represent a significant domain of human life that influences the satisfaction and well-being of both individuals and communities, making them an important subject of research. In the educational context, positive relationships contribute to a positive learning environment, which in turn supports students' cognitive functions, memory, problem solving, and openness to new ideas and solutions. Positive psychology suggests that "…the quality and duration of relationships can be enhanced not only by reducing conflict but also by increasing the frequency of positive interactions" (Rijavec & Miljković, 2006, p. 625). It is precisely interactions that give a relationship its character; through them, many dimensions of human relationships are expressed. While how a message conveyed through interaction is interpreted depends on the student-teacher relationship, it is interactions from which the relationship itself emerges and develops (Wubbels, 2017). The nature of these interactions depends on situation and context, and the higher education context often entails hierarchical communication and hierarchical relationships that are shaped, to some extent freely, by teachers and students (Hagenauer et al., 2023).

# 2 Student-Teacher Relationship in Higher Education

Higher education is a specific educational environment in which young people undergo a developmental transition toward adulthood by assuming and accepting responsibility for themselves and for managing their further development and learning within a given social and cultural context. In contemporary higher education, with the Bologna Process, the paradigm of student-centred learning has been introduced through institutions and educational policies. Under this paradigm - linked to a learning outcome-based curriculum - students are given a greater role in co-creating and delivering the teaching process (Wagenaar, 2019), and the teacher's role becomes different (perhaps more facilitative and less lecture-based), yet remains central to the teaching process. In student-centred teaching, teachers aim to establish interaction and to activate and motivate students to achieve learning outcomes. One way to establish positive interaction, and consequently a positive relationship with students, is the use of humour in teaching (Savage et al., 2017).

The definition and conceptualisation of the student-teacher relationship in higher education are not fully harmonised, which makes comparisons across empirical studies difficult (Hagenauer et al., 2023; Tormey, 2021). Nevertheless, there is some agreement - first and foremost, that it is a multidimensional, dynamic, and complex relationship. Examining how students perceive the emotional quality of the student-teacher relationship, Tormey (2021) developed a three-dimensional theoretical model of the affective relationship (CARI - Classroom Affective Relationship Inventory) and tested it on a sample of 851 students. Using the CARI model, he showed that the student-teacher relationship in higher education consists of dimensions of warmth, trust, and admiration. Students and teachers may feel warmth toward one another and may feel trust and admiration toward each other's competence. These dimensions are interrelated but can also be considered individually. For example, students may admire a teacher's competence even if the teacher does not evoke feelings of warmth in them.

One way of conceptualising the student-teacher relationship is through the construct of rapport. As a positive interpersonal construct, rapport has been linked to students' perceptions of autonomy support and feelings of competence, which are in turn associated with student persistence, motivation to learn, and positive study outcomes (Pašić, 2025). The emotional quality of the relationship contributes to students' satisfaction with the course (Tormey, 2021), to their perception of the social context, and to higher intrinsic motivation (Leenknecht et al., 2023). The teacher's relationship with students should be marked by quality communication,

trust and respect, and a readiness for open critical reflection and self-reflection (Čižmešija et al., 2018). Karpouza and Emvalotis (2019) found this relationship to be a complex dynamic process which, despite hierarchical differences, is reciprocal (Pranjić & Žižanović, 2021). Furthermore, Hagenauer et al. (2023) argue that a quality student-teacher relationship comprises two key dimensions - professional and personal - and that a positive relationship is essential for the well-being of both students and teachers, as well as for teaching quality, the learning process, and its outcomes. A good student-teacher relationship is also associated with group dynamics and student absenteeism (Tormey, 2021, p. 993).

Hagenauer et al. (2023) focused their research on the relationship with first-year students, as this is a period of transition and adaptation in which young adults move into a new educational environment, and the relationship with teachers should therefore play a more significant role than it does later. However, every first encounter between a teacher and students is important, because the future interactions are established on the first ones; this is the opportunity to set or align communication strategies and behaviours over any course. Higher education offers various forms of teaching organisation: students may meet a particular teacher only in a certain year for a single semester across a few days, or they may encounter the same teacher multiple times, across different years and different courses. Clearly, each teacher will have their own style and attach different significance to building relationships with students, but what matters for the overall student experience is the cumulative synergy through which teachers work to build good relationships with students.

Quinlan (2016) argues that emotions are a key aspect of human relationships, including those in educational contexts, because education is relational (Bingham & Sidorkin, 2004). Quinlan (2016) identifies four key relationships for a student in higher education: the relationship with the subject of study, the relationship with the teacher, the relationship with other students, and the relationship with oneself. Although the teacher's role is to help each individual student achieve intended learning outcomes, in many cases the teacher - as an individual - is in a relationship with a group or different groups of students. From the other side, the student experiences and evaluates how the teacher behaves toward and relates to them both as a member of the group and as an individual. Tormey (2021) argues that viewing the student-teacher relationship through the lens of emotional quality is less dependent on culture and context than is students' perception of teacher behaviour. Even students in large classes and in disciplines not typically associated with emotion - such as the natural sciences and engineering - had no difficulty associating their teacher with terms such as compassionate, impressive, and trustworthy. This requires teachers to be aware of their own and their students' emotions, to be able to interpret them, and to manage the feelings they express.

Although emotions are universal and an important determinant of the student-teacher relationship, defining and understanding the quality - and indeed the appropriateness - of this relationship in higher education requires contextual consideration, taking into account the cultural and educational values and norms that shape it: for example, individualistic versus collectivistic cultures, research-intensive versus applied universities, so-called hard versus soft sciences, and personal characteristics such as gender, socio-economic status, year of study, or whether the student is domestic or international (Hagenauer et al., 2023).

A relationship develops out of student-teacher interactions, and interactions tend toward complementarity, meaning that a given behaviour is likely to elicit a specific reaction: friendly teacher behaviour can encourage student cooperation and engagement, while dominant and directive behaviour may provoke the opposite - submissiveness and passivity (Wubbels, 2017). A set of communication and social skills (shown in Table 1) is a constitutive element of the

university teacher competence profile as described in the Handbook for Enhancing Teacher Competences in Higher Education (Čižmešija et al., 2018, p. 5).

*Table 1: Overview of the set of social and communication skills*

| The higher education teacher knows and understands: | The higher education teacher can: | The higher education teacher should: |
|---|---|---|
| The fundamental principles of linguistic expression and presentation of teaching content; the concepts and principles of interpersonal communication in and beyond the classroom; the dynamics of social processes in groups and teams; techniques of networking and negotiation within the academic context | Clearly and effectively present teaching content in accordance with the rules of academic discourse; communicate with students and colleagues in an encouraging and constructive manner; create and sustain various forms of teaching and research collaboration; negotiate in potentially conflicting situations; apply developed techniques of networking and negotiation | Raise awareness of the importance of correct linguistic expression in the academic context; support encouraging and constructive communication; encourage every form of cooperation aimed at advancing scholarly insight and teaching practice; advocate for capacity to negotiate with colleagues and students; foster the development of empathy and tolerance |

*Note. Adapted from Čižmešija et al. (2018, p. 5).*

Through a literature review on the challenges of developing and sustaining a caring student-teacher relationship in higher education, Pranjić and Žižanović (2021) identified three categories of challenges: personal (teacher characteristics, competences, beliefs about teaching), social - those arising from the relationship itself (such as mismatched expectations and reality, or students' failure to adhere to agreed relational boundaries) - and contextual (e.g., the institutional environment).

In sum, the student-teacher relationship is a multidimensional construct (Tormey, 2021; Hagenauer et al., 2023) that encompasses both an interpersonal and a professional dimension. Both emerge and take shape during teaching and influence student learning (Hagenauer et al., 2023). It is a dynamic and reciprocal relationship between adults that contains a hierarchy (Karpouza & Emvalotis, 2019) in which power rests with the teacher (Hagenauer et al., 2023). Through interaction with students and the application of a student-centred approach to teaching, the teacher has the opportunity to transfer some of that power to the student, thereby influencing students' attitudes and expectations (Hagenauer et al., 2023), resulting in the sharing of pedagogical space and the co-construction of learning (Shashwati & Tandon, 2019).

## 2.1 Limitations of Existing Models

Considering the aforementioned characteristics of the student-teacher relationship (STR), it should be noted that the models presented capture only certain dimensions of this relationship. For instance, the CARI model encompasses the emotional qualities of the relationship - warmth, trust, and admiration - examining the STR from the student perspective, while Hagenauer et al. (2023) describe the relationship from the teacher perspective through two dimensions: professional and personal (each comprising a set of characteristics), shaped by hierarchy and context. Wubbels (2017) focuses on interpersonal communication patterns between students and teachers, not on their dimensions.

Although the mentioned models recognise reciprocity as an essential characteristic, neither treats student and teacher attributes as separate dimensions, nor does either integrate them with the contextual factors that may undermine or support the relationship. There is no clear definition of this relationship beyond agreement that it is multidimensional, reciprocal, dynamic, and complex. An inductive approach that integrates stakeholder, contextual, and strategic dimensions within a single framework is therefore needed. This led us to the

following research question: *Which dimensions constitute a quality student-teacher relationship, and which factors play a role in that relationship?*

# 3 Methodology

To better understand and more deeply explore the student-teacher relationship in higher education, we adopted a qualitative approach in this study - specifically, the use of open-ended questions that allow participants to express their views more freely, including their experience and their social and institutional context (Gay et al., 2012). Qualitative research proceeds from individual and particular phenomena from which general conclusions are drawn; however, as Halmi (2004) notes, it is untenable to separate deduction from induction, since the object of research itself must be approached holistically and both procedures must be integrated. Accordingly, Berg (2002) describes the qualitative research process itself as iterative, spirally linking almost all its phases. His model brings together the two prior approaches - research-before-theory and theory-before-research - which is the counterpart of the inductive-deductive paradigm. He proposes the following phases: idea → literature review → design → data collection and organisation → analysis and results → dissemination. These phases are not clearly separated, and progress through them is not strictly linear; one moves forward while periodically returning to earlier phases, revising, and moving forward again.

The central point of qualitative methodology is qualitative data analysis, which refers to "…the classification and interpretation of linguistic (or visual) material with the aim of drawing conclusions about the implicit and explicit dimensions and structures of meaning-making in the material, and about what is represented in it. Meaning making may refer to subjective or social meanings" (Flick, 2014).

For the processing of the qualitative data - the free, descriptive responses of the participants in this study - we selected thematic analysis as the most appropriate method. Although the method is called analysis, we wish to draw attention to a process that we ourselves became aware of during our interaction with the data: "In qualitative research, analytic and synthetic methods presuppose one another: thus, analysis presupposes an unknown, objectively realised synthesis of various factors in a given object or phenomenon. And synthesis presupposes analysis, because without knowledge of the parts and essential properties of some object, a complete synthesis cannot be carried out" (Halmi, 2004, p. 29).

Thematic analysis is widely used both as part of the process of other qualitative methods and as a stand-alone method suitable for addressing a variety of research questions (Nowell et al., 2017). It is suitable for processing large sets of qualitative data for which it is essential that the data be processed - and the analytical procedure be accounted for - in a systematic manner (Braun & Clarke, 2006; Nowell et al., 2017).

## 3.1 Researcher Positionality

The author is a doctoral candidate in educational sciences and a professional staff member at the University of Zagreb, working in the area of quality assurance of study programmes, lifelong learning and continuing teacher education. While not a teaching faculty member, the author works within the same institutional environment as the participants, which facilitated access and contextual understanding but also carried the risk of insider assumptions about institutional norms and teaching practices. To mitigate potential bias, the author engaged in reflexive self-awareness throughout the analytical process, critically examining how institutional familiarity might shape the identification and interpretation of themes.

### 3.2 Study Implementation

In an earlier phase of the research, a questionnaire on teachers' attitudes about the student-teacher relationship was developed, comprising 10 closed-ended items on the student-teacher relationship and 7 open-ended items (Appendix A). Open-ended items are those in which no response options are provided, allowing participants to answer spontaneously and in their own words. The questionnaire also included two additional instruments - one assessing teachers' attitudes toward the use of humour in teaching, and the other measuring teacher self-efficacy. These instruments, together with the 10 closed-ended questions about the student-teacher relationship, address separate research questions, and their results are reported elsewhere; only the data obtained from the open-ended items on the student-teacher relationship are analysed and presented in this paper.

An invitation to participate in the study, with a link to the online questionnaire (Google Forms), was sent to publicly available email addresses (n=54) of university teachers at every constituent unit (31 faculties and 3 academies of arts) of the University of Zagreb. Recipients were encouraged to forward the survey to teaching colleagues, resulting in snowball recruitment. A total of 153 teachers responded, indicating that the survey reached a substantially wider pool through peer-to-peer forwarding. This combined convenience-snowball sampling approach means the exact population reached cannot be determined, precluding a conventional response rate calculation.

This study was conducted as part of a postgraduate course assignment at the University of Zagreb. As the research involved an anonymous online survey posing no risk to participants, formal ethics committee approval was not sought. Informed consent was obtained through the introductory section of the questionnaire, which explained the study's purpose, the voluntary nature of participation, and the anonymity of responses. Completion and submission of the questionnaire constituted informed consent.

### 3.3 Participants

Participants in the study were teachers at the University of Zagreb. They represent all 34 constituent units, scientific fields, both genders, and multiple career stages, suggesting reasonable institutional coverage.

The majority of participants were female (60.8%), and most were long-serving, experienced university teachers: 39.9% had 16-25 years of service, 26.1% more than 25 years, 19.0% between 11 and 15 years, 11.1% between 6 and 10 years, while only 3.9% had fewer than 5 years of teaching experience in higher education. The disciplinary distribution is presented in Table 2.

*Table 2: Disciplinary distribution of participants (N = 153)*

| Scientific field | n | % |
|---|---|---|
| Technical Sciences | 45 | 29.2 |
| Natural Sciences | 38 | 24.7 |
| Social Sciences | 35 | 22.7 |
| Arts | 19 | 12.3 |
| Humanities | 15 | 8.7 |
| Biomedical and Health Sciences | 12 | 7.8 |
| Interdisciplinary Scientific Field | 11 | 7.1 |

| Scientific field | n | % |
|---|---|---|
| Biotechnical Sciences | 5 | 3.2 |
| Interdisciplinary Artistic Field | 5 | 3.2 |

*Note. Percentages exceed 100% because participants could indicate more than one disciplinary affiliation.*

Two potential biases should be noted: first, social desirability may have led teachers to overreport positive relationship behaviours and second, single-perspective bias - only teachers' perspectives were captured; students may experience these relationships differently.

### 3.4 Thematic Analysis

For the purposes of this study, inductive thematic analysis was applied following the six-step framework described by Braun and Clarke (2006). The analysis proceeded as follows.

In the first step, familiarisation with the data, all responses to the open-ended items were read. Teachers answered most items; only a small number of responses were missing. In reading teachers' answers across the seven items, certain patterns were noticed and ideas were noted as a prompt for the next step. After familiarisation, initial codes were generated (Step 2) using the online tool Taguette (ver. 1.5.2-3-gf706e2e) (Rampin & Rampin, 2021). The tool allows segments of data to be marked and coded. At this step, patterns and potential themes were sought. As recommended, segments of surrounding context were marked alongside each data extract so that context would not be lost in coding (Braun & Clarke, 2006). Once the responses had been initially coded, codes were grouped into themes (Step 3). The codes and coded data were exported into an Excel spreadsheet. In a column alongside each code, the potential theme to which the given data extract belonged was recorded. Some codes were linked to more than one theme. In this step, 73 potential themes were coded, including a theme labelled "miscellaneous", to which extracts were assigned that - taken individually - did not, at this stage, fit any pattern.

Reviewing themes (Step 4) - using Excel filters, each theme was isolated in turn, and the data were re-read to verify their internal homogeneity. Some extracts were recoded, and some themes were merged. A theme table was constructed, and the relationships among themes were analysed; a determination was made as to which themes could serve as main themes and which as subthemes. The meaningfulness of themes was also analysed in relation to the data set as a whole. Finally, the full data set was read once more, subthemes were grouped, and in places recoding occurred. In the final step, it became clear that there were four key themes with a set of subthemes. Each theme and subtheme was defined individually, and some subthemes were discarded. Data sufficiency was based on the richness and complexity of the patterns identified across participants' responses and their capacity to address the research question meaningfully.

As the analysis was conducted by a single researcher, several strategies were employed to support analytical rigour. First, an audit trail documenting coding decisions and theme development was maintained throughout the process. Second, the researcher engaged in reflexive practice, critically examining how her professional background, assumptions, and positionality may have shaped interpretation of the data. Third, theme development followed an iterative process: initial codes were generated, reviewed, and refined across multiple rounds, with data sufficiency assessed based on the richness and complexity of the patterns identified and their capacity to meaningfully address the research question.

# 4 Results

This study sought to answer the question: *Which dimensions constitute a quality student-teacher relationship, and which factors play a role in that relationship?* As a result of the research, a model was derived that represents four dimensions of the student-teacher relationship in higher education. The model is shown in Figure 1.

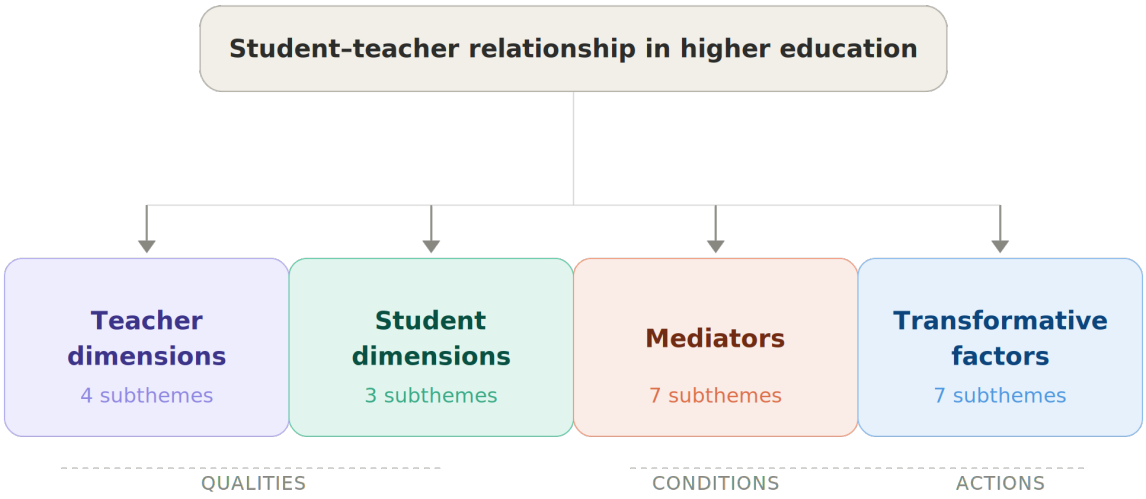


*Figure 1. A multidimensional model of the student-teacher relationship in higher education*

## 4.1 A multidimensional Model of the Student-Teacher Relationship in Higher Education

Through thematic analysis and a final synthesis of the data in Step 5, we arrived at four main themes (Student Dimensions, Teacher Dimensions, Mediators, Transformative Factors) that encompass nearly all the teachers' responses regarding their experience of relationships with students. Each of the four main themes emerges from a set of subthemes and their definitions. A total of 21 subthemes/subcategories were defined. The theme map representing main themes and subthemes is shown in Figure 2.

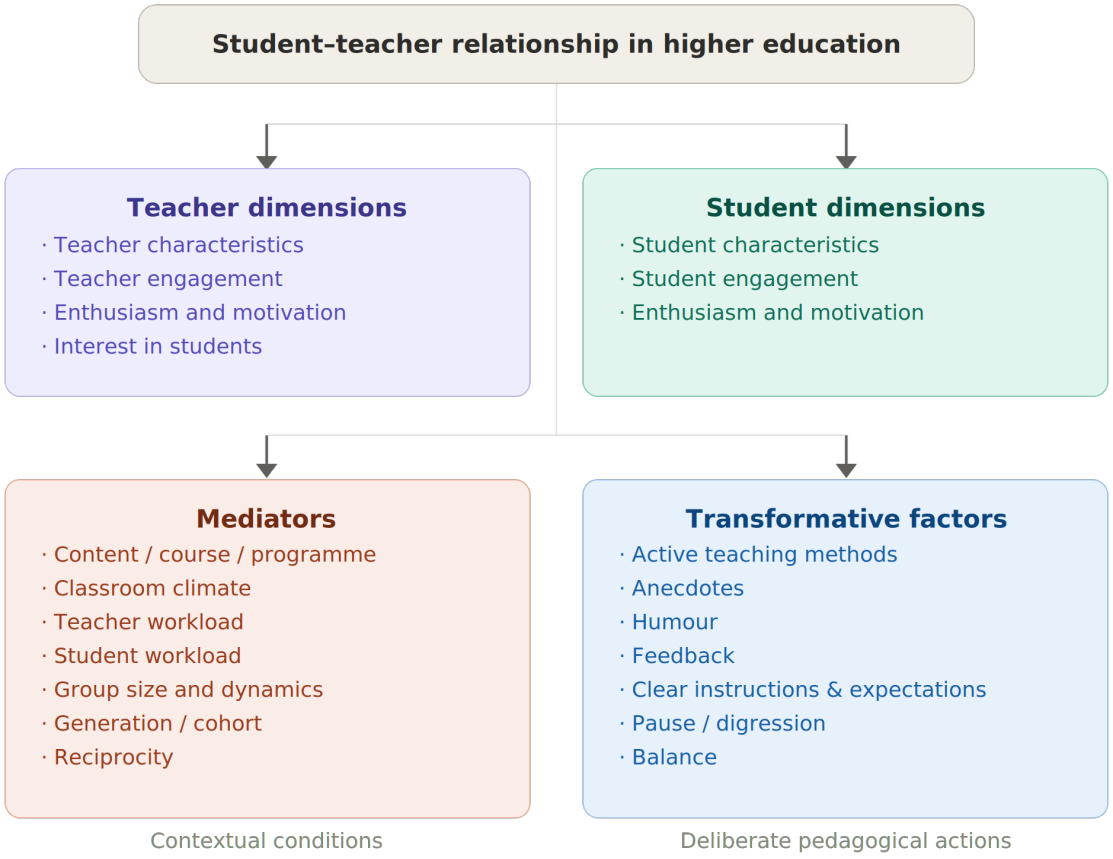


*Figure 2. The theme map of Student-teacher relationship in higher education*

The distinction between Mediators and Transformative Factors rests on a criterion of agency: Mediators are contextual conditions - structural, situational, or relational elements that exist within the educational environment largely independent of deliberate teacher action (e.g., group size, generational characteristics, workload). They may facilitate or hinder the relationship but are not themselves pedagogical interventions. Transformative Factors, by contrast, are deliberate pedagogical actions through which teachers deploy professional agency. For example, classroom climate is a Mediator - a condition that exists - whereas humour is a Transformative Factor - a deliberate strategy a teacher deploys to reshape that climate in a positive direction. Similarly, reciprocity is a Mediator because it describes a relational condition, while feedback is a Transformative Factor because it is an intentional pedagogical act. This conditions-versus-actions distinction aligns with Bandura's (2006, 2018) concept of human agency, in which agents do not merely react to environmental conditions but actively transform them.

### 4.1.1. Teacher Dimensions

Teacher Dimensions encompass qualities of the teacher that are important for establishing and developing a positive relationship with students. Teachers either possess these qualities or not as an aspect of who they are, independent of other factors or aspects of the relationship. In this study, the following teacher dimensions (subthemes) emerged from teachers' responses:

- **Teacher characteristics** - refer to positive personal qualities of the teacher such as *openness, expertise, responsibility, consistency, honesty, fairness, experience, kindness, approachability, understanding, flexibility, warmth, empathy, care, and dedication*. These qualities were repeatedly mentioned in teachers' responses.

- **Teacher engagement** - refers to the teacher's effort in preparing and delivering teaching: *"I think I am very engaged with my students, and based on my (rather limited) experience so far, it seems to me that I manage to build a relationship in which they can learn experientially what we talk about in class regarding the foundational principles of the profession" (id. 98, F); "the teacher's effort to recognise a student's quality - some will simply have a bad day/week, and some have poor results because they struggle" (id. 128, M)*. Inadequate teacher engagement affects both student learning and the student-teacher relationship itself: *"Losing their focus as a result of my poor organisation of the unit we're working on also creates a worse relationship between us" (id. 135, F)*.
- **Enthusiasm and motivation** - expressing enthusiasm and motivation for the shared profession, the course content, and the work itself: *"I tell them I'm looking forward to teaching them and that I hope the course will be useful and interesting for them. I explain the aim of the course and how they can connect it to working in practice one day" (id. 102, F); "By conveying the emotion of my own enthusiasm for the content of the lecture" (id. 39, M)*.
- **Interest in students** - the teacher's display of genuine interest in the student as a person and in the group of students: *"Giving them the opportunity to express their opinions, problems, and frustrations (I have the impression that many professors don't even ask), listening to them and showing understanding for their problems even when we can't solve them" (id. 99, F); "I am interested and engaged with their well-being in class" (id. 92, F); "...a positive response to student initiative, kindness, interest in their initiatives and questions. If I notice their problems, I try to talk about them and perhaps help or console them. With disengaged students: I try to approach them on a personal level and to make clear the stance that they matter to me and that I care about them" (id. 87, F); "Conversation (what we talk about and how we talk about it), interest in his/her status in the study programme, and trust" (id. 128, M)*.

#### 4.1.2. Student Dimensions

Student Dimensions encompass certain qualities that students exhibit and that teachers consider important for establishing a positive relationship. Three key subthemes emerged in which teachers' responses in this study were grouped:

- **Student characteristics** - Teachers note that students' personal qualities and character are important to the relationship, with particular emphasis on student responsibility: *"We are colleagues in the artistic-educational process, and each carries responsibility for their part of the process" (id. 46, M); "I ask for their cooperation and responsibility" (id. 84, M); "The students' responsibility in the relationship is to show initiative themselves - to be ready to enter into interaction and communication with the teacher" (id. 97, F)*. Teachers also see their own role in building this sense of responsibility in students: *"I want to encourage their responsibility for studying" (id. 124, F)*.
- **Student engagement** - refers to students' effort in attending classes regularly, completing assignments, and actively participating in discussions and other classroom activities: *"The main factor is students' commitment - their work and study. If they are interested, it regularly ends in mutual satisfaction. Lack of interest, a 'we'll-figure-it-out' attitude, a 'how much do I need for a pass' approach, negatively affects my relationship with students. I don't give up on them, nor do I treat them worse, but it burdens me to realise that we're wasting time, because with such an approach they will either drop out or re-enrol in the course" (id. 123, M); "What I like most is when suggestions for teaching activities arise immanently from the process - but come from the students themselves" (id. 125, F)*.

- **Enthusiasm and motivation** - refers to the interest students show in their studies and in the course. Teachers expect students to be motivated and interested in the course; they value students' *"...motivation for the course, but also self-regulation, so that they keep working on the course even when topics aren't particularly interesting to them" (id. 32, F)*, while on the other hand clearly highlighting their own role in cultivating that motivation: *"I try to combine a somewhat more relaxed approach in order to gain their trust and get them interested in the course" (id. 71, M)*. They emphasise the importance of *"...a good explanation of why the course can be important (for students)" (id. 28, F)*.

### 4.1.3. Mediators

Mediators in the student-teacher relationship comprise a set of elements that necessarily exist in education and that "stand between" teacher and student. They can manifest as either obstacles or facilitators in the relationship. Through them and across them unfold the interactions that keep the relationship alive. In teachers' responses in this study, these mediators were organised into seven subthemes:

- **Content / course / study programme**: The shared task and shared goals of teachers and students within the study programme, organised in the form of courses - content that takes shape through the teaching process. The largest share of teacher-student interactions takes place within these organisational structures, as does much of the motivation for both parties. Teachers therefore consider it important to provide *"information about the course through the syllabus, introducing themselves and the students, defining expectations for the course, and discussing students' motivation for the course" (id. 93, F); "The quality of teaching - in terms of interesting content and lecturing skills - and a willingness to accommodate students (when this is not being exploited at the expense of one's good nature) are most important for the relationship with students as a group" (id. 95, M)*. Teachers can manage content in order to maintain motivation and focus: *"I adjust the content (taking circumstances into account), to the point of skipping material" (id. 137, F)*.
- **Classroom climate** - refers to the atmosphere of a given class session, of the course in general, of the study programme, or of the institution. Through their own interventions, teachers can partly influence the climate - most of all at the level of a class session or a course: *"...a couple of jokes to relax the atmosphere, but I make it clear to them that this is a university study, not secondary or primary school" (id. 128, M)*. Particularly significant is *"...creating an inclusive atmosphere in which every student feels welcome and fostering a sense of belonging and respect for each student's individuality - (which) contributes to creating a positive and inspiring atmosphere in which students can grow, learn, and achieve their goals" (id. 141, F)*.
- **Teacher workload** - Teachers report that being overburdened at and beyond work affects their interactions and their relationship with students: *"Because of my workload with other responsibilities - perhaps somewhat distanced" (id. 61, F); "I'm overworked, my concentration is poor. Students surely notice it, but they don't complain, from which I conclude that they find the material interesting and don't hold it against me" (id. 64, F)*.
- **Student workload** - Teachers sense and observe students' frustration and overload with course and study-programme demands and seek various ways to help students: *"I offer alternative ('easier') activities instead of the planned ones if I notice they are overburdened" (id. 75, M); "I try to console them that the overload is temporary" (id. 79, M); "I try to find out the reason for their frustration/overload and clearly communicate to students what expectations have been placed on them and how, together, we can overcome*

*the difficulties" (id. 94, F); "I try to offer support, but also to communicate clearly that frustration is part of the process" (id. 129, F)*.

- **Group size and dynamics** - the number of students enrolled in a course. Group size influences the teacher's ability to organise interactive teaching and to connect with students: *"When we had large student groups, we couldn't observe them or react when individual students became disengaged. In the small groups we have now, each of us builds a relationship with students in line with our personality" (id. 152, F); "My groups are at least 40 students, which actually makes it impossible to learn their names over the semester, and I am especially sorry that I cannot engage with uncovering individual students' potential" (id. 1, M); "There is a large difference between large and small groups in courses. In a compulsory course with many students, everything comes down to mastering the content and passing the course. In smaller elective courses, I always manage to establish a very high-quality relationship with most of the students" (id. 13, F)*. Group dynamics can shift from session to session and can be such that they positively affect both the teacher and each individual student: *"Sometimes it's easier to work with a group because a positive group dynamic and a shared motivation to achieve goals arise, along with healthy competitiveness" (id. 92, F)*.

- **Generation / cohort** - characteristics of a generation/cohort of students: *"Each generation is different depending on the context of the time" (id. 36, M); "I have to strengthen myself in working with new generations in which quite a few lack developed communication skills" (id. 45, F); "I am encountering emotionally colder generations who are afraid of mutual physical contact (the nature of the course requires it), who assert their rights and know how to articulate them clearly (somewhat aggressively)" (id. 56, F)*.

- **Reciprocity** - the extent to which teachers and students are aligned in behaviours and expectations. Many teachers consider *mutual regard, respect, and understanding* to be important. One teacher described this as follows: *"My attitude is correct and approachable in the sense of openness to queries during and beyond class; theirs is also correct because I believe they appreciated the transparency in how the course was organised, and they showed interest in the course content during class" (id. 14, F)*.

#### 4.1.4. Transformative Factors

Transformative Factors encompass the techniques, methods, and approaches that teachers in this study reported as enabling the establishment and maintenance of a positive relationship by transcending mediators or by converting them into facilitators.

- **Active teaching and learning methods** - refer to methods and techniques that encourage and enable *active student participation in class, project work, problem-based teaching, and the like*. Teachers very often cite *dialogue* as important in their relationship with students, along with the use of active methods and concrete examples to foster student engagement, motivation, and interest, to build positive group dynamics and positive interactions, and to overcome passive teaching in large groups. Many teachers want to introduce more active teaching methods in order to improve their relationships with students: *"I include interactive activities that encourage getting to know one another and teamwork" (id. 141, F); "I would gladly apply some more contemporary modes of communication (e.g., introduce revision in the form of a quiz)" (id. 87, F); "I would design new tasks or forms of teaching that will act as more of a spur to their involvement" (id. 113, F); "Project-oriented teaching that brings together multiple subjects - simulating situations from real life, teamwork, and multidisciplinarity" (id. 92, F); "More real examples from practice to illustrate (to students) - they trust concrete, real examples rather than pure theory" (id. 25, M); "Abundant use of my*

*own clinical-experience examples so that students can connect course content with real events, and so that they gain the impression that teaching is only a small part of their future profession, with the rest emerging from experiential learning" (id. 98, M); "I would like to introduce more interactivity into teaching and do less ex-cathedra lecturing" (id. 71, M)*.

- **Anecdotes** - stories from the lives of teachers and students that connect the academic with professional or private life, and that serve to motivate students, help them overcome current difficulties, and raise interest in the profession: *"Recounting interesting experiences related to the lecture topic; I tell them some anecdote from my own student life in a particular course" (id. 23, F); "During lectures I often use anecdotes, narratives, stories from life, or presentations of experiences that illustrate the theory or method being presented" (id. 92, F)*.
- **Humour** - a number of teachers in this study stated that they use humour to create a positive classroom climate and to engage students with the content: *"Most often I turn to humour and try not to burden the lecture with unnecessary content" (id. 106, M); "One has to reconcile a formal demeanour with an informal, more humorous and friendly one, which must be dosed so that the student does not consider you unserious" (id. 107, F); "I try to cheer them up with humour and highlight what is essential" (id. 122, M)*.
- **Feedback** - timely and constructive information that teachers give students about their progress and behaviour, as well as the information students give teachers about the class and the course - that is, a readiness to share and to receive criticism: *"Teachers should be open to students' opinions and experiences, because feedback and mutual learning are important for reciprocal development" (id. 151, F); "The teacher should ask for feedback on the content presented (in terms of whether the manner of presentation was clear), and students should provide it without hesitation" (id. 74, F); "If I fail to pay timely attention to a certain unsatisfactory student behaviour or study approach (as soon as the behaviour is identified), it can affect both the relationship and the outcomes" (id. 123, F); "In general, I receive very positive comments and ratings on student surveys, in which students note that they appreciate the structure, clarity, responsiveness, ease, and openness" (id. 131, F)*.
- **Clear instructions and expectations** - timely guidance about teaching, the course, and the study programme that is clear and unambiguous, along with expressed and aligned expectations: *"I provide complete instructions and a description of their obligations and the course content (what I expect from them, and what they can expect from me), with written materials including deadlines for assignments, exam dates, and so on, such that at the start of the course all the rules, rights, and obligations of both sides are known" (id. 14, F); "I stick to the agreed rules and do not change them during the semester; from the outset students know everything related to the courses themselves, the rules, and the mode of examination" (id. 72, M); "It is very important that students know what is expected of them in a course and that the expectations and criteria do not change during the semester. It is important that the professor holds classes regularly, does not cancel them, is not late, that the exam is as they said it would be, that they have understanding for students' anxiety and nerves during oral exams, and that students know exactly why they are going to some exercises outside the faculty, what their task is, and so on" (id. 102, F)*.
- **Pause / digression** - the possibility of interrupting or redirecting unfavourable group dynamics or climate: *"I ask them whether we need to slow the pace, take a break, review something, or move on to next time" (id. 5, F); "I monitor nonverbal communication and take a break if I notice it's needed. Individually, I sometimes request a conversation if I notice a particular student isn't doing well" (id. 92, F); "I slow down the lecture and based on feedback I further clarify part of the material - if I notice that students are overburdened*

*with the current lecture, I slow down and, based on feedback, additionally clarify part of that material" (id. 51, M)*.

- **Balance** - refers to various kinds of balance in the relationship - the balance between professional and friendly conduct, between private and professional life, between different kinds of workload, and so on: *"balance between authority and approachability" (id. 43, F); "I try to establish a balance between a friendly and a professional relationship" (id. 92, F); "A balance between the teacher's authority, which must exist in both professional and human terms, and collegiality - a collaborative way of working in which teacher and student are equal travellers on the path toward the same goal. In addition, the formal and informal - the more humorous and friendly - must be reconciled, and this must be dosed such that the student does not consider you unserious" (id. 107, F); "Perhaps better balancing of 'demands' (actually, expectations) toward different categories of students in terms of their prior knowledge (highly uneven), ambition (also uneven), and initiative and engagement in mastering the material - there is always more that can be done to optimise the approach" (id. 145, M); "Sometimes I lack authority; that is, the balance between empathy and understanding and the authority with which students treat one with respect is demanding" (id. 92, F)*.

## 5 Discussion

Guided by the research question - *Which dimensions constitute a quality student-teacher relationship, and which factors play a role in that relationship?* - the thematic analysis led us to a model of the student-teacher relationship comprising four main categories/themes, which is consistent with prior research likewise pointing to the multidimensionality of this relationship (Hagenauer et al., 2023; Tormey, 2021). However, compared to the studies included in the systematic review by Putaru and Rusu (2023), our model appears more comprehensive, particularly in that it encompasses aspects concerning both the student (Student Dimensions) and the teacher (Teacher Dimensions), as well as those sitting between and around them (Mediators and Transformative Factors). Although in this study we considered only the teacher's perspective, it became evident that teachers are aware of the role of certain student dimensions in co-creating a quality relationship; thus, alongside Teacher Dimensions, they also foreground Student Dimensions: student characteristics (primarily responsibility), enthusiasm and motivation, and engagement - the effort students devote to their studies and to participation in class. Viewed from the student perspective, the key dimensions of the student-teacher relationship - teacher knowledge, preparation, socialisation strategies, teaching strategies, and assessment strategies (Obeidat, 2020) - are partly included in our model, although students' own share of responsibility for the quality of the relationship is not visible in those student-focused responses. In our model, and likewise in the literature (Galanes & Carmack, 2013; Karpouza & Emvalotis, 2019; Pranjić & Žižanović, 2021), reciprocity appears as one of the mediators essential to building a positive relationship, encompassing mutual regard, respect, and understanding.

Our model intersects with several well-established constructs. First, the construct of immediacy, defined by Albert Mehrabian as communication behaviours that "enhance closeness to and nonverbal interaction with another" (Mehrabian, 1969, p. 203, as cited in Witt et al., 2004, p.185), partially overlaps with the teacher characteristics of approachability and warmth that in our model denote teacher qualities situated within a broader relational system but we did not identify the nonverbal behaviours and signs indicating warmth and approachability of teacher.

Similarly, our model intersects with the concept of teacher-student rapport - defined as a harmonious and positive interpersonal relationship characterised by mutual trust, respect, and a sense of connectedness (Frisby & Martin, 2010) that is within teacher responsibility (Bardorfer, 2013). Our Teacher Dimensions (particularly interest in students and teacher characteristics such as warmth, approachability, empathy, and reciprocity) closely mirror the rapport literature. However, rapport is typically conceptualised as a dyadic relational outcome, whereas our model specifies not only the relational qualities that underpin rapport but also the contextual conditions (Mediators) that can facilitate or hinder it and the deliberate pedagogical strategies (Transformative Factors) through which teachers actively cultivate it.

According to social presence theory (Short et al., 1976), communication occurs at varying degrees of perceived reality, which is particularly relevant for teaching delivered through various forms of online instruction. However, our study was conducted at the University of Zagreb, where study programmes are not offered typically in online or blended formats; in such mainly face-to-face settings, the highest degree of perceived social presence is assumed. Our model does not question the experience of presence itself but rather examines the quality of the student-teacher relationship, presupposing their co-presence. We believe this is also why mode of delivery does not appear among the Mediators - the contextual conditions that can hinder a positive relationship.

The belonging construct (Strayhorn, 2019) resonates with our Mediator subtheme of classroom climate, understood as both classroom-level and institutional-level climate that can enhance or hinder students' sense of belonging. Our model complements belonging research by specifying the pedagogical mechanisms through which teachers actively create an atmosphere of belonging using Transformative Factors.

In teachers' responses in this study, even when not always stated directly, the idea of student-centred teaching is clearly visible - teaching in which students play a significant role and share responsibility with the teacher (Wagenaar, 2019). Teachers emphasise the importance of student engagement and the transcendent role of active teaching and learning methods, experiential teaching, anecdotes, humour, and digressions, through which they stimulate student motivation, turn disengagement into interest and frustration into creation, foster positive group dynamics, overcome overload, and create a positive classroom climate. Students share with teachers the responsibility for the quality of the relationship, which is one of the four key relationships (alongside those with the subject, with peers, and with oneself) for students in higher education (Quinlan, 2016).

### 5.1 Limitations and Future Research

Despite the model's multidimensionality and the inclusion of participants from all scientific and artistic disciplines, several limitations should be acknowledged. First, the study was conducted at a single institution - the University of Zagreb - within the specific cultural and educational context of Croatian higher education. The model therefore reflects the relational norms, institutional structures, and pedagogical traditions of this setting, which may limit the transferability of findings to other cultural contexts or higher education systems. Second, the model is based exclusively on teachers' self-reported perspectives; students' experiences of the same relationship may differ substantially, and the absence of student data represents a significant limitation.

Future research should test the transferability of the model through cross-cultural validation studies across diverse higher education systems and cultural contexts. It should also incorporate students' perspectives, as examining how students perceive the same four dimensions may reveal additional dimensions not visible from the teacher's standpoint.

Quantitative or mixed-methods research designs would further strengthen the model's empirical foundation. We would also suggest the development of an instrument for empirically testing our four-dimensional model.

Although the analysis was conducted by a single researcher, this is consistent with the epistemological foundations of reflexive thematic analysis (Braun & Clarke, 2019, 2021), in which the researcher's subjective engagement with the data is integral to theme development. Rigour was supported through audit trail of coding decisions, reflexive self-awareness of the researcher's interpretive positioning, and iterative theme development assessed for richness and coherence. Nonetheless, future studies would benefit from collaborative coding to enhance the breadth of interpretive perspectives.

## 6 Conclusion

Rather than proposing an entirely novel framework, this model integrates and extends several adjacent constructs by offering a multidimensional, teacher-reported perspective on how student and teacher qualities, contextual conditions, and deliberate pedagogical actions interact to shape the student-teacher relationship in higher education. Our model encompasses the key dimensions that constitute the student-teacher relationship in higher education - namely: Teacher Dimensions (teacher characteristics, teacher engagement, enthusiasm and motivation, interest in students); Student Dimensions (student characteristics, student engagement, enthusiasm and motivation); Mediators (content/course/study programme, classroom climate, teacher workload, student workload, group size and dynamics, generation/cohort, reciprocity); and Transformative Factors (active teaching and learning methods, anecdotes, humour, feedback, clear instructions and expectations, pause/digression, and balance).

Regarding practical implications, the findings of this study suggest several recommendations. At the individual level, the Transformative Factors identified in the model (humour, feedback, active teaching methods, clear expectations, digression/pause, and balance) can serve as a direction for self-reflection on teaching practice and as pedagogical strategies that can be employed to build positive and sustainable relationships with students. At the institutional level, the Mediators can serve as guidelines highlighting structural conditions when developing institutional policies and allocating resources related to teacher workload, group size, and classroom and university climate, thereby ensuring an environment that better supports the relational quality of education. The model can also serve as a framework for faculty staff development programmes.

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## Appendix A

**Open-ended questions:**

1. Which strategies do you use to establish a positive relationship with students at the beginning of a course?
2. How do you respond when you notice that students feel frustrated or overburdened?
3. How would you describe your relationship with students?
4. In your view, what constitutes a quality relationship with students?
5. Which changes would you introduce into your way of working in order to improve relationships with students?
6. When you think of the most recent generation of students you have taught, how would you describe your relationship toward them and their relationship toward you?
7. Which factors, in your view, influence your relationship with students as a group, and your relationship with the individual student?