

Assessing the Impact of University Transportation Service Quality on Student Well-being: Evidence from Kasdi Merbah University, Ouargla

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Abstract:

This paper assesses the well-being of students at Kasdi Merbah University in Ouargla. This has been done using six key service quality dimensions (tangibility, reliability, responsiveness, communication, assurance, and credibility) through a survey of 280 students. The findings reveal a general dissatisfaction with several tangible and operational aspects of the transportation service, particularly seating availability, ventilation, schedule adherence, complaint handling, safety, and communication. Statistical analysis indicates that tangibility, communication, and assurance significantly impact student well-being, explaining approximately 37% of well-being variance. This underscores the crucial role of comfortable, safe, and well-communicated transportation services in supporting students' physical and mental health. The study highlights the need for strategic improvements in these dimensions to enhance travel experiences, reduce commuting-related stress, and foster a healthier campus environment.

Keywords: University transportation, Service quality, Student well-being.

Jel Classification Codes : I23 ; L91 ; I10; M31.

Résumé:

Cet article évalue le bien-être des étudiants à l'Université Kasdi Merbah à Ouargla. Cette évaluation a été réalisée en utilisant six dimensions clés de la qualité de service (tangibilité, fiabilité, réactivité, communication, assurance et crédibilité), à travers une enquête menée auprès de 280 étudiants. Les résultats révèlent une insatisfaction générale concernant plusieurs aspects tangibles et opérationnels du service de transport, en particulier la disponibilité des places assises, la ventilation, le respect des horaires, la gestion des réclamations, la sécurité et la communication. L'analyse statistique indique que la tangibilité, la communication et l'assurance ont un impact significatif sur le bien-être des étudiants, expliquant environ 37% de la variance du bien-être. Cela souligne le rôle crucial de services de transport confortables, sûrs et bien communiqués dans le soutien à la santé physique et mentale des étudiants. L'étude met en évidence la nécessité d'améliorations stratégiques dans ces dimensions afin d'améliorer les expériences de déplacement, de réduire le stress lié aux trajets et de favoriser un environnement universitaire plus sain.

Mots clés: transport universitaire, qualité de service, bien-être des étudiants, modèle SERVQUAL

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I. Introduction

Traveling to and from university is more than just getting from point A to point B for students, it plays a significant role in shaping their overall well-being. The quality of transportation services, including how comfortable, safe, and reliable they are, can affect students' daily stress levels, physical comfort, and emotional state. When transportation is unpredictable or uncomfortable, it can add unnecessary anxiety and fatigue, impacting how students experience campus life and their general happiness (Ariffin et al., 2023; Ding et al., 2022).

Many studies highlight how commute conditions directly influence not only students' ability to focus but also their mental and emotional health. Simple things like having a clean, safe bus or timely schedules matter more than we might think as they contribute to a student's peace of mind and satisfaction with their university experience (Nguyen et al., 2024; Yu et al., 2022).

In the Algerian context, university transportation plays a particularly critical role because a large proportion of students depend on institutional buses to reach distant campuses. At Kasdi Merbah University in Ouargla, informal feedback and preliminary observations point to recurring complaints about overcrowded buses, insufficient seating, inadequate ventilation, weak safety measures, and poor communication regarding schedules, delays, and route changes. These issues suggest that transport service quality may be an important but underexplored determinant of students' well-being on campus, beyond its obvious logistical function.

Conceptually, this study draws on an extended SERVQUAL framework to capture the multi-dimensional nature of service quality in university transportation. The analysis considers six dimensions—tangibility, reliability, responsiveness, communication, assurance, and credibility—as key attributes through which students judge the quality of the transport service and form overall impressions that may affect their well-being. While the SERVQUAL model has been widely used in transport and higher education services, there is still a lack of empirical evidence on how these dimensions jointly influence student well-being in North African universities and, more specifically, in Algerian public institutions.

Against this backdrop, the central problem addressed in this article can be formulated as follows: to what extent do the dimensions of university transportation service quality affect the well-being of students at Kasdi Merbah University in Ouargla? In line with this problem, the study seeks to answer the following main research question: How do tangibility, reliability, responsiveness,

communication, assurance, and credibility in university transportation services shape students' well-being at Kasdi Merbah University?

To address this question, the study pursues three main objectives: (1) to assess students' perceptions of university transportation service quality across the six SERVQUAL dimensions; (2) to measure the level of student well-being associated with the commuting experience; and (3) to examine the effect of each quality dimension on students' well-being. Based on the literature and the local context, the study posits one overall hypothesis—that university transportation service quality has a statistically significant effect on students' well-being—as well as a set of sub-hypotheses suggesting that each individual dimension (tangibility, reliability, responsiveness, communication, assurance, and credibility) is positively and significantly related to student well-being.

II. Theoretical Framework: University Transportation Service Quality and Student Well-Being

University transportation services form an essential part of the overall educational support system, especially as student populations grow and campuses expand into multiple locations. Providing high-quality transportation is critical not only for facilitating access to education but also for influencing students' psychological and physical well-being during their academic experience (Magasi, MacKenzie, & Whiteneck, 2022; Zakaria, Ahmad, & Yusof, 2018).

Well-being among university students encompasses their emotional, mental, and physical states, which can be significantly affected by daily commuting experiences. Stress, fatigue, and discomfort during travel are common issues, detracting from students' overall satisfaction and health (Burzacchi et al., 2024). The quality of transportation services can either alleviate or exacerbate these issues by addressing concrete service attributes linked directly to student comfort, safety, and peace of mind.

To conceptualize and measure this quality, the SERVQUAL model is widely used due to its comprehensive approach. Developed by Parasuraman and colleagues, SERVQUAL identifies five dimensions critical to service quality evaluation (Parasuraman, Zeithaml, & Berry, 1985; 1988).

This section is divided into two sections, the first one deals with SERVQUAL dimensions while the second mentions the previous studies related to this research.

II.1 SERVQUAL dimensions:

This section talks about the dimensions of service quality (SERVQUAL).

II.1 Tangibility

This dimension captures the physical and tangible elements of transportation services, such as the condition and cleanliness of buses, availability of seating, and the presence of comfort amenities. Well-maintained and pleasant environments can greatly enhance a student's travel experience, reducing discomfort and promoting a sense of care and respect (Alma & Željko, 2023; Kerim & Hasan, 2021).

II.1.2 Reliability

Reliability refers to the ability of transportation services to operate dependably and punctually, fulfilling commitments like on-time arrivals and consistent schedules. High reliability reduces anxiety around delays and missed classes, supporting students' well-being through predictability and control over their day (Eboli & Mazzulla, 2007).

II.1.3 Assurance

This dimension pertains to the safety and security felt by students while using transportation, encompassing competent and cautious driving, well-monitored vehicles, and emergency preparedness. A safe environment is essential for minimizing travel-related stress and fostering trust in the campus transit system (Redman, Friman, Gärling, & Hartig, 2013).

II.1.4 Communication

A critical but sometimes underappreciated dimension of service quality is communication (the clarity, timeliness, and effectiveness of information exchange between service providers and users). Effective communication ensures that users are well-informed about schedules, changes, delays, and available support, which in turn fosters transparency and builds trust (Kandampully et al., 2015). In a university transportation context, clear communication alleviates anxiety and uncertainty associated with commuting, helping students plan their days better and feel more in control. Research highlights that poor communication negatively influences customer satisfaction and can undermine even technically reliable services (Palmer & Bejou, 1995; Bitner et al., 2000). Conversely, openness in sharing information and providing accessible channels for feedback encourages user engagement and loyalty (Berry & Parasuraman, 1991). This dimension goes beyond simple information delivery; it encompasses responsiveness to inquiries and complaints, proactive updates, and tailored communication that meets diverse user needs (Brady & Cronin, 2001). Emphasizing communication alongside tangibility, assurance, and reliability completes a holistic approach to service quality that centers on the user experience (Lewis & Mitchell, 1990).

II.1.5 Responsiveness

Responsiveness measures the willingness and ability of transportation providers to address student needs promptly, such as handling complaints efficiently or offering alternatives during service disruptions. Quick and empathetic responses contribute to positive student perceptions and reduce feelings of helplessness (Abdullah, 2006).

II.1.6 Credibility

Credibility focuses on students' trust in the transportation service's honesty, transparency, and integrity. Effective communication about delays, changes, and service conditions reassures students and builds confidence in the system, which positively impacts their psychological comfort (Abdullah, 2006).

Together, these dimensions provide a holistic lens to evaluate how university transportation services support or hinder student well-being. Understanding these relationships enables universities to target specific service attributes for improvement, ultimately fostering healthier, less stressful campus environments.

II.2 Previous Studies.

A growing body of empirical research has examined how service quality in education and transport settings shapes user satisfaction and broader outcomes. Abdullah (2006), for example, developed and tested the HEDPERF scale to measure service quality in higher education and found that perceived quality significantly influences students' satisfaction, demonstrating the relevance of multidimensional quality constructs in academic environments. In the wider services context, Eboli and Mazzulla (2007) showed that specific bus service attributes such as punctuality, comfort, and information provision are critical drivers of passenger satisfaction, underscoring the importance of operational reliability and tangible conditions for public transport users.

More recently, several studies have focused directly on university transportation and student outcomes. Ariffin et al. (2023) reported that higher perceived quality of university transport services in Malaysian universities is associated with increased student satisfaction and better reported well-being, highlighting the role of comfort, safety, and reliability in shaping students' daily experiences. Nguyen et al. (2024) found that logistics service quality in university public transport in Thailand significantly affects student satisfaction, emphasizing dimensions such as reliability, responsiveness, and communication. Complementing this, Burzacchi et al. (2024) identified links between university transport service quality, student academic performance, and well-being, suggesting that commuting conditions can have both psychological and academic consequences. Other contributions, such as Magasi et al. (2022), have shown that

the configuration of campus transportation options is associated with student health outcomes, reinforcing the connection between mobility conditions and well-being.

At the conceptual level, Parasuraman et al. (1985, 1988) established the SERVQUAL model as a dominant framework for assessing perceived service quality across sectors, while subsequent work by Berry and Parasuraman (1991), Brady and Cronin (2001), and others refined the understanding of how service encounters, tangible elements, and hierarchical quality dimensions shape user perceptions. Studies applying tangibility and assurance to public transport contexts, such as Alma and Željko (2023), Kerim and Hasan (2021), and Redman et al. (2013), consistently show that physical conditions, safety, and comfort are central to passenger evaluations. However, despite this rich literature, empirical evidence that jointly examines multiple service quality dimensions and student well-being in North African universities, and specifically in Algerian public institutions, remains scarce. This study contributes to filling that gap by applying an extended SERVQUAL framework—including communication and credibility—to the case of Kasdi Merbah University in Ouargla and focusing explicitly on students' well-being as the main outcome

III. Methods and Materials

This section describes the research design, target population and sampling procedure, survey instrument, and reliability and analysis techniques used to examine the effect of university transportation service quality on students' well-being at Kasdi Merbah University in Ouargla. The study followed a quantitative, cross-sectional, descriptive–analytical design based on a structured self-administered questionnaire.

III.1 Study Population and Sampling.

The study population consisted of students enrolled at Kasdi Merbah University in Ouargla during the period of data collection (Mars-April 2024). Using a random sampling approach, 280 students were invited to participate by completing the questionnaire, and all returned questionnaires were deemed valid and retained for statistical analysis. This sample size is adequate for applying multivariate techniques such as multiple linear regression with several predictor variables.

III.2 Survey Instrument

To test the central hypothesis and its sub-hypotheses, a structured questionnaire was developed drawing on prior research and established instruments in the field of service quality assessment. The first part of the questionnaire collected basic

demographic information, including gender, age, and marital status, in order to explore potential differences across student groups.

The second part comprised thirty-nine items designed to capture students' perceptions of university transportation service quality across six dimensions derived from an extended SERVQUAL framework. The items were grouped as follows:

- Tangibility (7 items), reflecting the physical and visible features of the service, such as bus condition, cleanliness, seating, and waiting areas.
- Reliability (6 items), focusing on the extent to which the service fulfills its promises consistently, including schedule adherence and regularity.
- Responsiveness (9 items), assessing how promptly and effectively the service responds to students' needs, complaints, and service disruptions.
- Communication (5 items), evaluating the clarity, availability, and timeliness of information about routes, schedules, changes, and support channels.
- Assurance (8 items), measuring perceptions of safety, security, and confidence in drivers, vehicles, and routes.
- Credibility (4 items), examining students' trust in the honesty, transparency, and seriousness of the transportation provider.

In addition, a separate set of five items was used to measure students' well-being related to their commuting experience, treated as the dependent variable in the analysis model. All items were rated on a five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"), and the interpretation of mean scores followed the intervals presented in Table 1

Table (1): The direction of opinion for the five-point Likert scale used in the study.

MEAN value	Degree of agreement
1 – 1.80	Strongly disagree
1.81 – 2.40	Disagree
2.41 – 3.40	Neutral
3.41 – 4.20	Agree
4.21 – 5	Strongly agree

Source: prepared by the researcher.

III.3 Reliability of the study tool

To make sure the questions in our survey consistently measure the same concept, we checked something called internal consistency using Cronbach's Alpha. This test basically tells us how well the items on a scale relate to each other—so if students answer one question a certain way, they tend to answer related questions similarly. Cronbach's Alpha can range from 0 to 1, with higher values meaning better reliability. For most research, an Alpha above 0.60 is considered adequate;

above 0.70 is good; and anything over 0.80 is viewed as very strong (Cohen et al., 2018).

Table (2): Cronbach's Alpha Reliability Coefficient

Number of items	Cronbach's Alpha Reliability Coefficient
39	0.936

Source: prepared by the researcher using SPSS.

Looking at the results, the overall Cronbach's Alpha for our questionnaire came out to 0.936, or 93.6%. Since this value is well above the commonly accepted threshold of 0.60, it shows that our survey instrument has excellent reliability, and the results are highly consistent.

Data were coded and analyzed using SPSS software (version 26). The analysis proceeded in two stages: first, descriptive statistics (means and standard deviations) were calculated for each item and each service quality dimension, as well as for the well-being scale, to profile students' perceptions. Second, multiple linear regression was employed to test the main hypothesis and sub-hypotheses, with the six service quality dimensions entered as independent variables and students' well-being as the dependent variable, using a significance level of $\alpha < 0.05$

IV. Results and discussion

This section shares the findings that emerged after analyzing the survey data collected during the study.

IV.1 Results

The main hypothesis of the study proposes that university transportation service quality has a significant effect on students' well-being. To prepare for testing this hypothesis, descriptive statistics (means and standard deviations) were first calculated for each questionnaire item, grouped under the six service quality dimensions adopted in the study: tangibility, reliability, responsiveness, communication, assurance, and credibility.

IV.1.1 Tangibility dimension

The following table summarizes how the students rated the tangible aspects of the transportation service, capturing their level of agreement on each related statement.

Table (3): Service Quality Assessment in Terms of Tangibility Dimension

N	Statements	Mean	Standard deviation	evaluation
1	University transportation provides sufficient seating for students	1.76	0.94	Strongly disagree

2	University transportation provides comfortable seating for students	2.25	1.14	disagree
3	University transportation stops are in convenient locations	2.75	1.25	Neutral
4	University transportation is clean from the inside	2.80	1.18	Neutral
5	University transportation provides ventilation and appropriate air conditioning in all seasons	1.74	0.94	Strongly disagree
6	There are handrails or support means for standing passengers inside the buses	2.76	1.23	Neutral
7	Lighting inside the buses is adequate and suitable for night use	2.61	1.11	Neutral
-	Overall Mean	2.38	0.71	Disagree

Source: prepared by the researcher using SPSS.

The results for tangibility reveal clear dissatisfaction with the physical aspects of the transportation service. The overall mean of 2.38 falls within the “Disagree” range, indicating that, on average, students are not satisfied with the condition of buses and related facilities. The lowest ratings concern the availability of seating (mean = 1.76) and the adequacy of ventilation and air conditioning (mean = 1.74), both classified as “Strongly disagree,” which suggests that overcrowding and poor climate control are major pain points. Comfortable seating also scores poorly (mean = 2.25), reinforcing the picture of physically uncomfortable journeys. By contrast, aspects such as bus stop locations, cleanliness inside buses, the presence of handrails, and lighting at night receive means closer to the neutral range (approximately 2.61–2.80), suggesting that these elements are perceived as less problematic. Overall, the pattern indicates that deficiencies in seating capacity and onboard comfort are central drivers of students’ negative evaluations of the tangible side of the service, with clear potential to undermine their daily well-being.

IV.1.2 Reliability dimension

The following table summarizes how the students rated the reliability aspects of the transportation service, capturing their level of agreement on each related statement.

Table (4): Service Quality Assessment in Terms of Reliability Dimension

N	Statements	Mean	Standard deviation	evaluation
1	Bus departure times are accurate	2.27	1.15	disagree
2	The time interval between the arrival of one bus and another is acceptable	2.37	1.16	disagree
3	University transportation service operates regularly	2.38	1.13	disagree

	without frequent interruptions			
4	Buses adhere to the specified capacity to avoid overcrowding	1.85	1.03	disagree
5	The transportation schedule is respected even in exceptional circumstances such as bad weather	2.4	1.16	disagree
6	I can rely on university transportation to get to and from the university	2.77	1.31	Neutral
-	Overall Mean	2.34	0.84	Disagree

Source: prepared by the researcher using SPSS.

Reliability indicators also point to a generally negative assessment. The overall mean of 2.34 places this dimension in the “Disagree” category, signaling that students do not perceive the service as dependable. Low scores are recorded for punctual departures (mean = 2.27), acceptable intervals between buses (mean = 2.37), regular operation without frequent interruptions (mean = 2.38), adherence to capacity limits to avoid overcrowding (mean = 1.85), and respect of schedules in difficult conditions such as bad weather (mean = 2.40). Only the item on the general ability to rely on university transport for commuting achieves a neutral evaluation (mean = 2.77), suggesting that, while students often reach campus, they do so with considerable uncertainty and inconvenience. These findings highlight that irregular schedules and overcrowding are perceived as chronic problems, likely contributing to time pressure, stress, and missed classes, which can indirectly affect students’ well-being.

IV.1.3 Responsiveness dimension

The table below highlights the average scores (Mean) and standard deviations that reflect how students rated the university transportation service in terms of its responsiveness. These results capture to what extent students felt the service was quick and effective in addressing their needs and concerns.

Table (5): Service Quality Assessment in Terms of responsiveness Dimension

N	Statements	Mean	Standard deviation	evaluation
1	The university transportation bus network covers all university structures (study places and university residences)	2.97	1.18	Neutral
2	The university transportation bus network covers all neighborhoods of Ouargla city	2.53	1.09	Disagree
3	Buses are sufficiently available in the morning before classes begin	2.65	1.21	Neutral
4	Buses are sufficiently available in the evening after classes end	2.26	1.15	Disagree
5	Buses are sufficiently available on Saturdays	1.94	1.06	Disagree
6	Student complaints and suggestions are handled quickly and effectively	1.97	1	Disagree

7	Bus drivers are cooperative and willing to help students	2.53	1.13	Disagree
8	When a breakdown or delay occurs, alternative solutions are quickly provided	2.24	1.06	Disagree
9	University transportation management responds quickly and effectively when a problem occurs or a complaint is submitted	2.20	1.05	Disagree
-	Overall Mean	2.36	0.70	Disagree

Source: prepared by the researcher using SPSS.

For responsiveness, the overall mean of 2.36 again falls in the “Disagree” range, reflecting dissatisfaction with how quickly and effectively the service reacts to students’ needs. Some items, such as coverage of university structures and availability of buses in the morning, receive neutral scores (around 2.97 and 2.65), suggesting that the basic network design and peak-hour morning capacity are perceived as reasonably acceptable. However, most other aspects are rated negatively, including evening and Saturday availability, handling of complaints, cooperation of drivers, provision of alternatives in case of breakdowns, and the speed of administrative responses to problems (all below 2.6 and evaluated as “Disagree”). This profile paints a picture of a service that is slow to respond, particularly outside peak times and when issues arise, which can intensify feelings of frustration and helplessness among students.

IV.1.4 Communication dimension

The table below highlights the average scores (Mean) and standard deviations that reflect how students rated the university transportation service in terms of its communication. These results capture to what extent students felt the service was quick and effective in addressing their needs and concerns.

Table (6): Service Quality Assessment in Terms of communication Dimension

N	Statements	Mean	Standard deviation	Evaluation
1	Clear and updated information on bus schedules and routes is provided	2.38	1.14	Disagree
2	The institution offers effective communication methods such as a website or an app.	1.97	1.03	Disagree
3	Student inquiries about the transport service are answered promptly and efficiently.	2.10	1.05	Disagree
4	When service changes occur (such as changes in schedules or routes), students are clearly and timely informed.	2.01	1.04	Disagree
5	Maps or informational brochures are available to help new students understand the university transport system.	1.9	1.08	Disagree
-	Overall Mean	2.07	0.84	Disagree

Source: prepared by the researcher using SPSS.

The communication dimension obtains some of the lowest ratings in the study. All five items—covering clarity and updating of information on schedules and routes, availability of effective communication channels (such as websites or applications), prompt responses to inquiries, timely notification of service changes, and provision of orientation materials—have mean scores between 1.9 and 2.38, and all are evaluated as “Disagree.” Standard deviations around 1.0–1.14 indicate that this dissatisfaction is widely shared rather than restricted to a small subset of respondents. The overall mean communication score of 2.07 (SD = 0.84) confirms that students broadly perceive information provision and interaction with the transport administration as inadequate. Such weak communication likely contributes to uncertainty, lack of planning control, and increased anxiety about daily commutes.

IV.1.5 Assurance dimension

This table gives an overview of how students perceived the assurance aspect of the transportation service, including feelings of safety and confidence in the system. It summarizes the average scores and standard deviations based on students’ level of agreement with statements about the service’s ability to provide a secure and trustworthy experience.

Table (7): Service Quality Assessment in Terms of Assurance Dimension

N	Statements	Mean	Standard deviation	evaluation
1	Drivers adhere to traffic laws and safety procedures while driving	2.81	1.21	Neutral
2	Safety equipment such as surveillance cameras, fire extinguishers, emergency exits, and seat belts are available on buses	1.92	1.04	Disagree
3	Transportation routes appear safe and do not pass through dangerous or unpaved roads	2.82	1.2	Neutral
4	There is clear supervision that prevents non-university individuals from using the transportation	1.89	1.09	Disagree
5	Waiting areas and university transportation stations are safe and free from harassment	2.34	1.23	Disagree
6	First aid supplies are available inside buses for use when necessary	2.25	1.13	Disagree
7	University transportation buses are safely available until late hours to meet students' needs	2.01	1.14	Disagree
8	I feel safe when using university transportation at all times and in all situations	2.58	1.23	Disagree
-	Overall Mean	2.33	0.78	Disagree

Source: prepared by the researcher using SPSS.

The assurance dimension, which captures perceptions of safety and security, also records a generally negative evaluation. The overall mean of 2.33 falls into the “Disagree” category, indicating substantial concerns about safety and protective measures. Students are neutral about drivers’ adherence to traffic rules (mean = 2.81) and the safety of routes (mean = 2.82), but rate all other safety related aspects poorly: availability of safety equipment (mean = 1.92), control to prevent non students from boarding (mean = 1.89), safety and comfort of waiting areas (mean = 2.34), first aid availability (mean = 2.25), late hour bus availability (mean = 2.01), and their overall feeling of safety when using transport (mean = 2.58). These results suggest that students experience the system as weakly protected and insufficiently monitored, which can heighten feelings of vulnerability and reduce their sense of well-being.

IV.1.6 Credibility dimension

The following table presents the average scores and variability of responses regarding students’ perceptions of the credibility aspect of the university’s transportation service.

Table (8): Service Quality Assessment in Terms of Credibility Dimension.

N	Statements	Mean	Standard deviation	evaluation
1	The number of buses is sufficient to meet students' needs	2.28	1.13	disagree
2	Students are immediately informed of any delay or change in bus schedules	1.91	1.08	disagree
3	The designated bus routes are adhered to	2.89	1.16	Neutral
4	The university transportation service uses modern buses	2.13	1.08	disagree
-	Overall Mean	2.30	0.74	Disagree

Source: prepared by the researcher using SPSS

Credibility, which reflects trust in the honesty and seriousness of the service provider, is likewise rated unfavorably. The overall mean of 2.30, categorized as “Disagree,” indicates that students generally doubt the service’s reliability and transparency. The lowest mean (1.91) concerns timely notification about delays or schedule changes, pointing to a critical weakness in how information is shared during disruptions. Insufficient bus numbers (mean = 2.28) and the perceived lack of modern buses (mean = 2.13) also receive negative evaluations, revealing worries about both capacity and quality of the fleet. Only adherence to designated routes achieves a neutral mean (2.89), suggesting that, although routes are followed, broader issues of credibility remain unresolved. Overall, these

results show that students' trust in the transport administration is fragile, especially when it comes to resource adequacy and openness about operational problems.

IV.2 Discussion of the obtained results

This section attempts to discuss the results obtained in the previous section.

IV.2.1 Discussion of Results Related to the Tangibility Dimension

The results for tangibility underline how strongly students link their commuting experience to concrete physical conditions. Recurrent complaints about overcrowding, lack of seating, poor maintenance, and inadequate ventilation point to daily discomfort that can translate into fatigue, irritability, and a negative start or end to the academic day. The unsatisfactory state of waiting areas, which are perceived as insufficiently protective against weather conditions, further reinforces this strain. Improving these visible, tangible elements—such as increasing bus capacity, upgrading vehicles, and enhancing stations—would likely produce rapid gains in perceived quality and could contribute directly to better physical and psychological well-being among students.

IV.2.2 Discussion of Results Related to the Reliability Dimension

Reliability emerges as a key source of frustration. Frequent delays, irregular schedules, and overcrowded buses make it difficult for students to plan their journeys and arrive on time, particularly during peak hours and weekends. This unpredictability not only disrupts attendance but can also create ongoing stress, as students must constantly buffer extra time or face the risk of missing classes. The absence of real time information systems aggravates this problem by leaving students in the dark about delays or cancellations. Strengthening timetable adherence, optimizing fleet deployment, and integrating modern information tools could therefore help reduce uncertainty and support a more stable daily routine, which is essential for sustained well-being.

IV.2.3 Discussion of Results Related to the Responsiveness Dimension

The discussion of responsiveness highlights a perceived distance between students and the transport administration. Many respondents feel that their complaints, suggestions, and concerns are not taken seriously or handled in a timely manner. Weak or non-existent feedback channels—such as dedicated hotlines, mobile applications, or structured complaint systems—contribute to this sense of neglect. Establishing clear, accessible communication pathways and involving students in regular evaluation processes could help close this gap. Faster, more transparent responses to operational problems would not only resolve immediate issues but also signal respect for students' voices, which can

enhance trust and emotional well-being.

IV.2.4 Discussion of Results Related to the Communication Dimension

The communication results reveal a systematic shortfall rather than isolated weaknesses. Even the highest rated item, related to clear and updated information on schedules and routes, remains in the “Disagree” range, and the lowest means—concerning orientation materials and timely notification of changes—point to serious deficits in basic information provision. The relatively low variability in responses suggests that this negative perception is widely shared. In practice, poor communication means students often travel without reliable knowledge of when buses will arrive, how long disruptions will last, or what alternatives exist, which can heighten anxiety and reduce their sense of control over daily life. Investing in simple, consistent communication tools—such as online timetables, social media alerts, or notice boards—could thus have a disproportionately positive impact on students’ well-being compared to the relatively low cost of implementation.

IV.2.5 Discussion of Results Related to the Assurance Dimension

Safety-related concerns are prominent across student responses. Reports of unauthorized individuals boarding buses and worries about driver behavior feed a perception of weak supervision and risk exposure. The lack of visible safety equipment (cameras, first aid kits, fire extinguishers) and limited late night service further increase feelings of vulnerability, especially for students who travel during early morning or evening hours. Enhancing assurance will require a combination of stricter access control, systematic driver training, improved lighting and surveillance at stops, and clear safety protocols communicated to users. Such measures can help restore confidence in the system and reduce commuting related anxiety, thereby supporting a more secure environment for learning.

IV.2.6 Discussion of Results Related to the Credibility Dimension

Finally, the credibility dimension illustrates a deeper issue of trust between students and the transport administration. Perceived failures to communicate delays, explain decisions, or ensure sufficient and modern buses foster a sense that the service is neither fully transparent nor genuinely responsive to student needs. Experiences of unfulfilled commitments or unprofessional behavior further weaken confidence and may lead students to disengage from official channels altogether. Rebuilding credibility requires consistent, honest communication about constraints and planned improvements, as well as visible follow through on promises. Demonstrating a sustained commitment to student welfare through concrete actions can gradually restore trust and, in turn,

contribute positively to students' overall well-being.

IV.3 Testing the study hypothesis

The main hypothesis of the study states that university transportation service quality has a significant effect on students' well-being. To examine this hypothesis, a multiple linear regression model was estimated, with the six service quality dimensions (tangibility, reliability, responsiveness, communication, assurance, and credibility) entered as independent variables and students' well-being as the dependent variable.

For statistical testing, the hypothesis can be formulated as follows:

- H0: There is no statistically significant effect of service quality dimensions on students' well-being at the 0.05 significance level.
- H1: There is a statistically significant effect of service quality dimensions on students' well-being at the 0.05 significance level.

Table (9): Correlation Between Quality Dimensions and Students' well-being

Model Summary^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.610 ^a	.372	.358	.62316
a. Predictors: (Constant), Responsiveness, Assurance, Reliability, Tangibility and credibility.				
b. Dependent Variable: students' well-being.				

Source: prepared by the researcher using SPSS

From the table above, it can be observed that the linear correlation coefficient between the quality dimensions and students' well-being is (61%), indicating a moderate correlation between the two variables. As for the explanatory power regarding the dependent variable, we note that the adjusted correlation coefficient reached (37.2%), meaning that (37.2%) of the changes occurring in students' well-being are due to the quality dimensions, while the remaining percentage (62.8%) is attributed to other factors, random factors, or error.

Table (10): ANOVA Table for the Effect of Service Quality Dimensions on students' well-being

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.804	6	10.467	26.955	0.00 b
	Residual	106.013	273	0.388		
	Total	168.817	279			
a. Dependent Variable: Students' well-being.						
b. Predictors: (Constant), Responsiveness, Assurance, Reliability, Tangibility and credibility.						

Source: prepared by the researcher using SPSS

The ANOVA results show that the regression model is statistically significant. The regression sum of squares is 42.804, compared to a residual sum of squares of 106.013, for a total of 168.817. With 6 degrees of freedom for the regression and 273 degrees of freedom for the residual, the mean square values are 10.467 and 0.388, respectively, yielding an F-statistic of 26.955. The associated significance level (p-value) is 0.000, which is below the 0.05 threshold, leading to rejection of the null hypothesis H0 and confirming that the regression model as a whole provides a good fit to the data.

Table (11): Variance of the regression line for the main hypothesis

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.935	.152		6.172	.000
	Tangibility	.228	.069	.209	3.315	.001
	Credibility	-.106	.070	-.102	-1.516	.131
	Responsiveness	.080	.081	.072	.986	.325
	Communication	.180	.063	.195	2.835	.005
	Reliability	-.019	.064	-.020	-.290	.772
	Assurance	.349	.072	.353	4.849	.000
a. Dependent Variable: Students' well-being.						

Source: prepared by the researcher using SPSS

From the previous table, it can be observed that the constant value of the regression line is 0.935, which represents "a" in the linear equation. As for the slope of the regression line for the dimensions whose significance level was less than 0.05, it is as follows:

- 0.228 for the tangibility dimension,
- 0.180 for the communication dimension.
- 0.349 for the assurance dimension.

Accordingly, the regression equation can be written as follows:

$$\text{Students' well-being} = 0.935 + 0.228 (\text{tangibility}) + 0.180 (\text{communication}) + 0.349 (\text{Assurance})$$

These results indicate that improvements in tangibility, communication, and assurance are each associated with higher levels of reported well-being among students, holding other dimensions constant. In contrast, the coefficients for credibility, responsiveness, and reliability are not statistically significant at the 0.05 level, which implies that, in this sample, variations in these three dimensions do not have a detectable direct effect on students' well-being once

the other dimensions are accounted for. Therefore, the null hypothesis is rejected for tangibility, communication, and assurance, and accepted for credibility, responsiveness, and reliability.

Overall, the regression analysis supports the main hypothesis that university transportation service quality, particularly in terms of tangible conditions, information and communication, and safety and assurance, plays a meaningful role in shaping the well-being of students at Kasdi Merbah University in Ouargla

V. Conclusion

This study examined how the quality of university transportation services shapes the well-being of students at Kasdi Merbah University in Ouargla. It moved beyond a purely logistical view of transport to consider how everyday commuting conditions affect students' physical comfort, emotional state, and sense of ease on campus. By applying an extended SERVQUAL framework—tangibility, reliability, responsiveness, communication, assurance, and credibility—the study provided a detailed picture of how students experience the current transport system.

The findings reveal a consistent pattern of dissatisfaction. Students report discomfort linked to overcrowded and poorly ventilated buses, irregular schedules, weak communication about routes and changes, and inadequate safety and supervision. These problems are not isolated annoyances; they accumulate into a commuting experience that generates stress, fatigue, and uncertainty, and this, in turn, weighs on students' overall well-being.

The regression analysis shows that three dimensions—tangibility, communication, and assurance—have a statistically significant positive effect on students' well-being. When buses and waiting areas are more comfortable and better maintained, when information is clear and timely, and when students feel safe and protected, their reported well-being improves. Reliability, responsiveness, and credibility did not show a significant direct effect in the model, yet the descriptive results indicate that weaknesses in these areas still shape how students judge and emotionally respond to the transport service.

These results send a clear and practical message to university leaders and service providers. Priorities should include increasing seating capacity and improving vehicle conditions, upgrading and sheltering waiting areas, establishing simple but reliable communication channels (such as online schedules and alerts), and making safety measures visible through supervision, equipment, and training. Such interventions do not only solve technical issues; they signal that students' comfort and security matter, which can strengthen trust and support a healthier campus climate.

Overall, the study underlines that transport service quality is a central element of the student experience, not a secondary concern. Treating university transportation as a strategic lever for student well-being—rather than merely a means of getting students from home to campus—can contribute meaningfully to building a more supportive and humane university environment.

VI. Referrals and references

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