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From Editors

Dear Scholars, Researchers and Readers,

We are pleased to present the July 2025 issue of The Online Journal of New Educational Developments (TOJNED), which brings together original and interdisciplinary studies that reflect the dynamic, multifaceted structure of contemporary academic research and practice. The articles included in this issue address current topics that intersect the fields of education, organizational studies, management, marketing, digitalization, cultural studies, and service quality, each contributing valuable empirical evidence and theoretical perspectives to their respective domains.

This issue begins with an investigation into consumer preferences and purchasing behavior in the automotive sector, offering important findings on how changing consumer expectations and market dynamics shape purchasing decisions. Another study presents a comparative analysis of the cultural characteristics of Cypriot and Anatolian Turkish folktales, thus enriching the literature on cultural memory, collective identity, and the transmission of intangible cultural heritage.

Within the scope of corporate service quality, a significant contribution examines customer satisfaction in corporate services through the case of the National Library of the TRNC, providing insights into how public information institutions can strengthen user satisfaction through effective service design and management. Early childhood education is addressed through an experimental study that explores the development of basic science concepts and vocabulary among preschoolers using science magic activities, emphasizing the pedagogical value of innovative, curiosity-driven learning methods.

This issue also includes studies focusing on organizational behavior and human resource management. One such study investigates the glass ceiling perception in terms of different generations (Generations X, Y and Z), highlighting intergenerational differences in perceptions of career advancement barriers. Another contribution examines the views of school administrators in the TRNC working at the primary education level on the use of artificial intelligence, revealing how technological innovations impact administrative practices and future educational strategies.

The digital transformation of leadership is discussed in a study on leaders' perceptions of artificial intelligence and its effect on digital leadership skills, underlining the need for technology-oriented competencies and awareness in contemporary leadership practices. Further, the issue includes research on teachers' perceptions of organizational support and organizational justice in private schools, which sheds light on how supportive and fair institutional climates can enhance teachers' commitment and job satisfaction.

Within the domain of organizational psychology, an empirical study analyzes the effect of individual–organization fit on job satisfaction among private sector employees in the TRNC, emphasizing the alignment between personal and organizational values as a determinant of work attitudes and well-being. Another study addresses the effect of organizational alienation on organizational climate, highlighting how feelings of detachment can impact employees' perceptions of the working environment.

In the context of marketing and service innovation, the issue includes an article examining the effects of artificial intelligence on digital marketing and service quality, focusing on the aviation industry, and another contribution investigating the impact of marketing information systems on marketing decisions, both of which point to the transformative influence of digital tools in strategic management and customer relations.

Finally, this issue concludes with an important study that examines the impact of organizational change on organizational creativity, emphasizing that change processes, when managed effectively, can foster an organizational climate that promotes innovation, adaptability, and sustainable development.

Collectively, the studies featured in this issue demonstrate the rich diversity and depth of current research and reflect TOJNED's commitment to publishing scientifically rigorous and practically relevant contributions. We believe that the insights provided herein will serve as valuable references for researchers, practitioners, and policy makers who aim to design more effective educational practices, develop innovative organizational strategies, and contribute to the broader discourse on sustainable institutional development.

On behalf of the editorial board, I would like to express my sincere gratitude to all our authors for their valuable contributions, to our reviewers for their meticulous and constructive feedback, and to our readers for their ongoing support and engagement. We trust that this issue will inspire further academic inquiry and collaborative research across disciplines.

We wish you all a fruitful and thought-provoking reading.

July 01, 2025

Sincerely,

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CONSUMER PREFERENCES AND PURCHASING BEHAVIOR IN THE AUTOMOTIVE SECTOR

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ABSTRACT

The aim of this study is to examine the factors that influence individuals' vehicle purchase intentions and to analyze the variables that shape consumer preferences in this regard. The study is structured using a quantitative research method and adopts a relational survey model. The population of the study consists of individuals residing in the Turkish Republic of Northern Cyprus (TRNC) who are over the age of 18. In this context, the dataset obtained from 405 participants was deemed sufficient for ensuring the reliability of the statistical analyses. To determine the vehicle purchase intentions and consumer preferences of the participants, the Consumer Preferences Scale developed by Walsh and Mitchell (2010) was used. The data were analyzed using the SPSS 26.0 statistical software.

The research findings indicate that individuals' vehicle purchasing behavior is shaped by multiple factors, including functional features, brand reputation, service quality, and price/cost considerations. Individuals with higher purchase intentions place greater importance on these factors, and this tendency is particularly evident among those planning to purchase a vehicle in the short term. With respect to demographic variables, it was found that men are more sensitive to technical features, middle-aged individuals place greater emphasis on brand and functionality, and married and higher-income individuals attach more importance to functional and economic factors. Variables such as occupation, vehicle ownership, frequency of vehicle replacement, and purchase intention also significantly affect consumer behavior. Additionally, the purpose of visiting an authorized dealer emerged as a factor influencing consumers' evaluations. Positive correlations between the subscales indicate that consumer decisions are driven by multiple, complementary factors. These results suggest that marketing strategies in the automotive sector should be designed with sensitivity to both economic and psychosocial variables.

Keywords: Automotive Sector, Consumer Preferences, Purchasing Behavior

1. INTRODUCTION

1.1. Problem

In today's globally competitive environment, the automotive sector is being reshaped not only by technological advancements but also by the transformation of consumer behaviors and preferences. In particular, the combined impact of environmental concerns, digitalization, and evolving individual value systems means that psychological, social, and environmental factors—as well as traditional economic considerations have become key determinants in consumers' purchasing decisions. The launch of Turkey's domestic automobile brand, TOGG, has brought attention to the potential effects of factors such as consumer ethnocentrism, perceptions of innovation, and country image on consumer preferences (Avcı, 2020). This development has also raised questions about how national identity and innovation can be leveraged in the brand strategies of domestic manufacturers. The growing influence of digital communities on brand loyalty has made it necessary for automotive companies to restructure their customer relationship strategies. For example, netnographic research focusing on Toyota Turkey has demonstrated that brand fan communities can foster a strong sense of loyalty in digital environments (Dalgıç & Tiltay, 2020). Meanwhile, purchasing tendencies that vary according to consumers' demographic characteristics play a decisive role in target audience segmentation strategies within the sector (Aras & Çelik, 2021).

In addition, in the luxury automobile segment, psychosocial elements such as prestige, brand reputation, and status symbols have become primary determinants of purchasing behavior (Memişoğlu & Kırgız, 2021). Research conducted in Japan on hydrogen fuel cell vehicles shows that consumers evaluate sustainability perceptions together with functional factors such as driving range and cost (Khan, Yamamoto, & Sato, 2020). Similarly, vehicle purchase tax incentives implemented in emerging markets like China highlight the effectiveness of policy tools designed to steer consumer behavior towards more environmentally sustainable choices (Lo, Fan, Zhang, & Mi, 2021). Studies have also demonstrated that user attitudes and perceptions towards electric vehicles significantly influence purchase intentions (Lashari, Ko, & Jang, 2021). Furthermore, the impact of social media on online shopping behavior during the pandemic period illustrates the central role that digital media now plays in consumer decision-making processes (Miah et al., 2022).

Collectively, these studies indicate that the factors shaping consumer preferences in the automotive sector must be evaluated in a multi-layered way—considering not only rational and economic dimensions but also cultural, social, psychological, and digital aspects. However, the limited number of comprehensive studies that address these elements from an integrated perspective highlights a clear gap in the literature. In this context, examining how consumer preferences are shaped by multi-dimensional dynamics will contribute meaningfully to both academic knowledge and the development of effective sectoral strategies.

1.2. Purpose of the Research

The purpose of this research is to examine the factors that influence individuals' vehicle purchase intentions and to analyze the variables that shape consumer preferences in this context. Within the scope of the study, the relationships between functional features, brand perception, service quality, price/cost factors, and the sub-dimensions of purchase intention are evaluated alongside key demographic and behavioral variables such as gender, age, education level, occupation, income, vehicle ownership status, and planned time frame for purchasing a vehicle. By revealing the multidimensional structure of consumer behavior, this research aims to develop strategic recommendations for the automotive sector.

1.2.1 Hypotheses

H₀: There is no significant difference in the sub-dimensions of the scale according to the vehicle change frequency variable.

H₁: There are significant differences in the sub-scales according to the vehicle change frequency.

H₀: There is no significant difference in the sub-dimensions of the scale according to the vehicle purchase intention variable.

H₂: There are significant differences in the sub-dimensions according to the vehicle purchase intention variable.

H₀: There is no significant difference between the subscale scores according to the vehicle ownership variable.

H₃: There are significant differences between the subscale scores according to the vehicle ownership variable.

H₀: There is no significant difference in consumer preferences depending on whether the spouse owns a vehicle.

H₄: There are significant differences in the scale sub-dimensions depending on whether the spouse owns a vehicle.

H₀: There is no significant difference in consumer preferences and purchase intention scale scores according to the authorized dealer visit purpose variable.

H₅: There are significant differences in subscale scores according to the authorized dealer visit purpose variable.

1.3. Importance of the Research

An in-depth understanding of consumer behavior is particularly important in the vehicle purchasing process, which involves high-cost and long-term decision-making. This research aims to contribute to the more effective development of marketing strategies by identifying the criteria that individuals prioritize when choosing a vehicle. Additionally, the findings of this study provide valuable insights for companies operating in the automotive sector, sales representatives, and policymakers, offering an opportunity to develop more consumer-oriented approaches.

2. THEORETICAL FRAMEWORK

2.1. The Concept of Consumer Behavior

Consumer behavior is a concept that encompasses all the mental, emotional, and physical activities individuals engage in while searching for, evaluating, purchasing, using, and disposing of goods or services. This concept holds an important place in the marketing literature because it plays a critical role in helping businesses understand customer expectations and develop strategies accordingly (Odabaşı & Barış, 2017). Consumer behavior does not consist solely of the purchasing act; it also includes pre-purchase processes such as information seeking and evaluating alternatives, as well as post-purchase processes such as satisfaction or regret. Therefore, consumer behavior is a multi-dimensional and dynamic process. For example, an individual's vehicle purchasing process does not end simply with buying the vehicle from a dealer; instead, the individual evaluates their budget, considers the brand's image, seeks opinions from their social circle, and shares their experiences with others. This complex structure makes it essential for businesses to take consumer psychology into account in their marketing activities (Kotler & Keller, 2016).

Theories used to understand consumer behavior have been developed to explain how individuals make decisions. One of these, learning theories, suggest that consumers' future purchasing behaviors are shaped by their past experiences. Positive, rewarding experiences can lead consumers to prefer similar products or services again, while negative experiences can have a deterrent effect. At this point, brand loyalty emerges as an important indicator of the continuity of consumer behavior (Solomon, 2018). Another key concept is motivation, often explained through Maslow's hierarchy of needs, which is frequently used to interpret consumer behavior. According to Maslow, individuals display purchasing behaviors that align with different levels of needs, ranging from physiological needs to safety, belonging, esteem, and self-actualization. For example, once basic needs are met, an individual may choose to purchase a luxury product to reinforce social status (Schiffman & Wisenblit, 2019).

Cultural factors are also among the elements that deeply influence consumer behavior. Value systems, beliefs, and traditions can shape individuals' attitudes toward products and services. In collectivist cultures such as Turkey, the influence of family and friends can be more decisive than individual decisions. Especially for significant and high-cost purchases, individuals' need for social approval tends to increase (Aytekin, 2020). Demographic variables such as social class, income level, and lifestyle also have a direct impact on consumer behavior. For example, product quality and prestige are more important for individuals in higher income groups, while consumers in lower income groups tend to focus more on price. Lifestyle, which reflects how individuals spend their time, their areas of interest, and their attitudes, also shapes which products they prefer (Engel, Blackwell, & Miniard, 2006).

Technological developments have significantly influenced consumer behavior. With the rise of digitalization and widespread internet use, consumers increasingly research products online, read user reviews, and make purchases through e-commerce platforms. This trend has transformed traditional consumer behavior models and compels companies to develop effective digital marketing strategies (Yüksel, 2021). Understanding consumer behavior is crucial for effective marketing management. By accurately analyzing the behavior of target audiences, businesses can offer suitable products and services, increase customer satisfaction, and strengthen brand loyalty. Consumer research, surveys, focus groups, and data analysis have become indispensable for collecting information on consumer preferences and behaviors, which is vital for the success of marketing strategies.

Consumer behavior explains the complex, multi-faceted relationship individuals have with products and services. For businesses, gaining a competitive advantage depends largely on accurately analyzing customer needs and behaviors. Therefore, it is essential to continuously update knowledge about consumer behavior and to use this information actively in marketing decision-making. The automotive sector is one of the fields where consumer behavior must be analyzed most carefully and strategically. The vehicle purchasing process represents a high-cost, long-term investment for consumers and involves evaluating numerous factors. These factors include price, brand perception, technical features, fuel efficiency, environmental impact, safety standards, and after-sales service, among others (Özdemir & Akgün, 2020).

2.2. Consumer Purchasing Behavior Models

Consumer buying behavior models provide theoretical frameworks for understanding how individuals make purchasing decisions, the factors that influence these decisions, and the psychological, social, and economic elements that shape consumers' preferences for products or services. These models play an important role in the development of effective marketing strategies and the analysis of consumer behavior. Over time, various models have been developed, each offering a different perspective on how consumer behavior can be explained (Schiffman & Kanuk, 2010). The Decision-Making Process Model, one of the most fundamental and classic models, explains purchasing behavior in five stages: need recognition, information search, evaluation of alternatives, purchase decision, and post-purchase behavior. This model assumes that consumers make conscious and rational choices. However, it is now widely accepted that consumer behavior cannot be explained solely by rational decision-making, as emotional and social factors also play significant roles (Blackwell, Miniard, & Engel, 2006).

The Psychological Model focuses on individual characteristics such as perceptions, motivations, attitudes, and learning processes. This model evaluates consumers' internal psychological processes in interaction with external environmental influences. For instance, Maslow's hierarchy of needs theory illustrates that consumers prioritize satisfying their needs in a certain order, and that these needs guide their purchasing decisions (Schiffman & Kanuk, 2010). The Social Influence Model highlights the role of social factors such as family, peer groups, social class, culture, and subculture in shaping consumer behavior. This model suggests that feedback, social norms, and values derived from one's social environment significantly influence purchasing preferences. According to this model, consumers often choose certain products to reflect their social identities and reinforce a sense of belonging (Solomon, 2017).

The Economic Model posits that consumers make purchasing decisions primarily based on economic factors such as income level, price sensitivity, and budget constraints. In this model, consumers aim to maximize utility and make choices based on a balance between price and performance (Kotler & Keller, 2020). The Behavioral Model explains consumer behavior using learning theories. According to this model, consumers develop certain responses based on stimuli from their past experiences and their environment. When positive outcomes are repeated, these behaviors become habitual. Marketers use this model to encourage habitual purchasing behavior and foster brand loyalty (Blackwell, Miniard, & Engel, 2006).

3. RESEARCH METHODS AND FINDINGS

3.1. Research Model

This study is structured using a quantitative research method. Quantitative research is an objective and systematic approach that aims to measure observable phenomena with numerical data and to draw generalizable conclusions through statistical analysis (Büyüköztürk et al., 2016). In line with the purpose of the study, data were collected using a survey technique, and the findings were analyzed through appropriate statistical methods.

The research design employed is the relational screening model, which is a type of descriptive model used to identify and examine relationships among multiple variables (Karasar, 2021). This model enables the investigation of potential cause-and-effect connections or mutual relationships between individuals' attitudes, behaviors, and tendencies. In this study, the relationships between participants' vehicle purchase intentions and the variables influencing these intentions such as functional features, brand perception, service quality, and price/cost were analyzed.

3. 2. Universe and Sample

The target population of this research consists of individuals residing in the Turkish Republic of Northern Cyprus (TRNC) who are over the age of 18. Accordingly, the scope of the population is limited by specific geographical boundaries (within the TRNC) and an age criterion (adults). To provide a broad understanding of consumer behaviors, the population has been defined as widely as possible. The research does not focus on a specific occupational group or consumer segment but instead targets the general consumer population. This approach increases the generalizability and external validity of the study. To determine the sample for the study, the convenience sampling method—one of the non-probability sampling techniques—was used. Convenience sampling involves collecting data from individuals who are readily accessible to the researcher and who voluntarily agree to participate. This method is widely used in large and heterogeneous populations due to practical time and cost constraints (Büyüköztürk, 2016). As part of the fieldwork, the survey was administered to 405 participants through both face-to-face interviews and online distribution. When determining the sample size, recommended sample size calculation methods for cases where the population is unknown or very large were applied. For studies conducted at a 95% confidence level with a $\pm 5\%$ margin of error, a minimum sample size of 384 participants is generally considered sufficient (Yamane, 1967). In this context, the dataset collected from 405 respondents was deemed adequate for ensuring the reliability of the statistical analyses.

3.3. Data Collection Tools

In this study, items adapted from the purchase intention scale developed by Walsh and Mitchell (2010) and a 31-item consumer preferences scale developed as a result of preliminary pilot studies were used to determine the vehicle purchase intentions and consumer preferences of the participants. The purchase intention scale consists of three items aimed at measuring individuals' vehicle purchase tendencies and is answered with a 5-point Likert-type rating system (1 = Strongly Disagree, 5 = Strongly Agree). The consumer preferences scale is structured under four basic categories: functional features (14 items), brand-related features (6 items), service-related elements (5 items), and price/cost factors (6 items). This scale was created based on the analysis of 31 different elements determined through previously conducted open-ended pilot studies. First, open-ended questions were directed to a group of 50 people, then new elements were identified in re-pilotings conducted with different participant groups, and a total of 31 items were reached. The content validity of the scale was evaluated by an expert group consisting of automotive sector employees and academicians and was found appropriate. In this context, each item allowed the participants to express their opinions numerically regarding the factors that were effective in their car purchase decisions. Some negatively oriented items in the scale were reversed during the analysis process; thus, the reliability and validity of the data obtained from the scale were increased.

3.4. Analysis of Data

SPSS 26.0 program was used in the analysis of the data obtained in this study. In the analysis process, firstly, Kaiser-Meyer-Olkin (KMO) measurement value and Bartlett's Sphericity Test were applied in order to evaluate the suitability of the data set for factor analysis. Then, skewness and kurtosis coefficients were examined together with Kolmogorov-Smirnov test to determine the distribution characteristics of the sub-dimensions of the scale; thus, the suitability of the data for parametric tests was statistically evaluated.

In order to evaluate the suitability of the 34-item scale used in the study for factor analysis, the Kaiser-Meyer-Olkin (KMO) criterion and Bartlett's Test of Sphericity were applied. As a result of the analysis, the KMO value was found to be 0.911. This value shows that the sample is quite suitable for factor analysis; because a KMO coefficient of 0.90 and above is accepted as an indicator of "perfect" level of sample suitability (Kaiser, 1974). In addition, according to the results of the Bartlett's Test of Sphericity, the Chi-square (χ^2) value was 4923.418, the degree of freedom (df) was 561 and the significance level was $p < .001$. This result reveals that there is a sufficient level of correlation between the variables and that the data are suitable for factor analysis.

The normality distribution for the five subscales used in the study was evaluated via the Kolmogorov-Smirnov test and skewness-kurtosis values. The significance level for all subscales in the Kolmogorov-Smirnov test was found to be $p < .001$, which shows that the assumption of normality in the formal sense was rejected. However, focusing only on the p-value is not sufficient for the applicability of parametric tests. As a matter of fact, as stated by George and Mallery (2010), if the skewness and kurtosis coefficients remain within the limits of ± 2 , it can be accepted that the data are suitable for parametric tests. In this context, the skewness was calculated as -0.58 and kurtosis as -0.71 for the Functional Characteristics subscale; -0.45 and -0.33 for Brand Characteristics; -0.37 and -0.41 for Service Characteristics; -0.26 and -0.14 for Price/Cost Elements; and -0.64 and -0.89 for Purchase Intention. All these values are within the range of ± 2 , indicating that they exhibit symmetric distributions close to normality. Therefore, in the light of the findings, it was concluded that the research data were suitable for parametric statistical analysis.

According to the reliability analysis, all sub-dimensions of the scale used in the study show a high level of internal consistency. Cronbach's Alpha coefficient calculated for 14 items of the Functional Features sub-dimension was found to be 0.89. This value shows that the participants' responses regarding their technical and performance-based preferences regarding the vehicle were consistent. The Alpha value of 0.85 obtained for 6 items in the Brand Features dimension reveals that perceptions regarding the brand were measured reliably. The value of 0.83 obtained in the Service Features dimension (5 items) and 0.81 obtained in the Price/Cost Elements dimension (6 items) show that these sub-scales are also quite reliable. The Purchase Intention dimension in the scale, despite consisting of only 3 items, produced a high reliability coefficient of 0.87; this shows that it consistently reflects the participants' intentions to purchase a car. The overall Cronbach's Alpha value calculated for the entire scale is 0.91, which proves that the scale as a whole is quite reliable and offers a structure suitable for statistical analysis.

4. FINDINGS

Table 1. Demographic Information Table (N = 405)

Variable	n	%
Gender		
Woman	213	52.6%
Male	192	47.4%
Age		
18–24	38	9.4%
25–34	95	23.5%
35–44	112	27.7%
45–54	78	19.3%
55–64	55	13.6%
65 and over	27	6.7%
Civil status		
Married	267	65.9%
Single	138	34.1%
Educational Status		
Primary School / Secondary School	22	5.4%
High school	34	8.4%
Associate Degree	66	16.3%
Undergraduate / Postgraduate	283	69.9%
Monthly Household Income		
Low Income	88	21.7%
Middle Income	212	52.3%
High Income	105	25.9%
Job		
Public Employee	118	29.1%
Private Sector	99	24.4%
Student	43	10.6%
Freelance	47	11.6%
Retired	53	13.1%
Housewife	23	5.7%
Doesn't work	22	5.4%
Total	405	100%

When the findings regarding the demographic characteristics of the 405 participants in the study are examined, it is seen that 52.6% of the participants are female and 47.4% are male. When the age distribution is examined, the highest rate is in the 35-44 age range with 27.7%, followed by 25-34 age with 23.5% and 45-54 age with 19.3%.

When evaluated in terms of marital status, it is seen that 65.9% of the participants are married and 34.1% are single. When the level of education is examined, it is understood that individuals with higher education are dominant; since 69.9% of the participants have a bachelor's or postgraduate degree, 16.3% have an associate degree. The distribution of monthly household income shows that 52.3% of the participants are in the middle income group, 25.9% in the high income group, and 21.7% in the low income group.

In terms of occupational distribution, 29.1% of the participants were public employees, 24.4% were private sector employees, 11.6% were self-employed, 13.1% were retired, 10.6% were students, 5.7% were housewives and 5.4% were unemployed individuals.

Table 2. Vehicle Usage and Purchase Information Table (N = 405)

Variable	n	%
Vehicle Change Frequency		
Once a year	32	7.9%
Every 1–2 years	64	15.8%
Every 2–3 years	96	23.7%
Every 3–4 years	88	21.7%
Every 4–5 years	125	30.9%
Vehicle Purchase Time Intention		
Within 1 month	28	6.9%
1–3 months	74	18.3%
3–6 months	89	22.0%
6 months – 1 year	97	24.0%
I don't think	117	28.9%
Do you currently own a vehicle?		
Yes	302	74.6%
No	103	25.4%
Does your spouse have a vehicle?		
Yes	198	48.9%
No	207	51.1%
Purpose of visiting authorized dealer		
Buying a new car	87	21.5%
Second hand vehicle sales	76	18.8%
Test Drive	63	15.6%
After sales service (service)	101	24.9%
Insurance / service information	78	19.3%

The findings of the study revealed various tendencies regarding the vehicle usage and purchasing habits of the participants. When the frequency of vehicle replacement is examined, it is seen that 30.9% of the participants change their vehicles every 4-5 years, and 23.7% every 2-3 years. This situation shows that a significant portion of the consumers adopt a long-term ownership approach to the vehicle. Regarding the vehicle purchase timing, 28.9% of the participants stated that they do not plan to purchase a vehicle within the next year, whereas 24% plan to purchase a vehicle within 6 months - 1 year, and 22% plan to purchase a vehicle within 3-6 months. This distribution shows that both short-term and long-term purchase plans coexist among the participants.

It was determined that 74.6% of the participants in the study currently owned a vehicle, while 25.4% did not own a vehicle. This finding shows that the majority of the research group were active users and therefore had direct experience with the automotive sector. The rate of spouses owning a vehicle was 48.9%, and it can be said that vehicle access at the household level was high. In addition, when the participants were asked about the reasons for visiting the authorized dealer, it was seen that 24.9% visited for after-sales service, 21.5% for purchasing a new vehicle, and 19.3% for insurance or service information. These findings show that automobile users attach great importance not only to purchasing but also to after-sales processes.

Table 3. Average Analysis of the Scale

Subscale	N	Min.	Max .	Mean	Ss .
Functional Features	405	1.14	5.00	4.18	0.72
Brand Features	405	1.33	5.00	3.91	0.80
Service Features	405	1.60	5.00	4.02	0.76
Price/Cost Elements	405	1.25	5.00	3.78	0.84
Purchase Intention	405	1.00	5.00	3.85	0.89

The average analysis results for the five subscales used in the study reveal the general tendencies of the participants regarding their vehicle purchasing behaviors and preferences. The average value of 4.18 (SD = 0.72) obtained in the Functional Features subscale shows that the participants attach great importance to technical and practical elements such as safety, comfort, and performance when purchasing a vehicle. The average for Service Features is 4.02 (SD = 0.76), indicating that service factors such as periodic maintenance, parts supply, and service accessibility are effective in consumer behavior.

The Brand Features sub-dimension has an average score of 3.91 (SD = 0.80), indicating that brand prestige and awareness play a significant role in purchasing decisions. The Price/Cost Elements sub-dimension reflects the sensitivity of participants to economic variables such as price, financing and exchange opportunities, with an average of 3.78 (SD = 0.84). Finally, the average value of 3.85 (SD = 0.89) obtained in the Purchase Intention sub-scale indicates that the participants' intention to purchase a vehicle in the next year is at a medium-high level.

Table 4. ANOVA Test Results in Subscales According to Frequency of Instrument Change

Subscale	Vehicle Change Frequency	n	Avg.	Ps .	F	p
Functional Features	Once a year	32	4.45	0.48	8.12	.000 2>3
	Every 1–2 years	64	4.35	0.52		
	Every 2–3 years	96	4.12	0.60		
	Every 3–4 years	88	4.00	0.65		
	Every 4–5 years	125	3.95	0.68		
Brand Features	Once a year	32	4.10	0.53	6.87	.000 4>5
	Every 1–2 years	64	3.98	0.56		
	Every 2–3 years	96	3.90	0.59		
	Every 3–4 years	88	3.82	0.61		
	Every 4–5 years	125	3.75	0.63		
Service Features	Once a year	32	4.20	0.51	7.34	.000 1>2.3
	Every 1–2 years	64	4.10	0.54		
	Every 2–3 years	96	4.00	0.58		
	Every 3–4 years	88	3.85	0.60		
	Every 4–5 years	125	3.80	0.62		
Price/Cost Elements	Once a year	32	4.00	0.55	5.92	.000 1>2
	Every 1–2 years	64	3.88	0.57		
	Every 2–3 years	96	3.75	0.60		
	Every 3–4 years	88	3.70	0.63		
	Every 4–5 years	125	3.60	0.66		
Purchase Intention	Once a year	32	4.40	0.46	7.82	.000 1>4.5
	Every 1–2 years	64	4.20	0.51		
	Every 2–3 years	96	3.90	0.62		
	Every 3–4 years	88	3.70	0.64		
	Every 4–5 years	125	3.55	0.68		

p < .05

According to the one-way variance analysis (ANOVA) and the post-hoc tests performed afterwards, significant differences were found in the sub-dimensions of the scale according to the frequency of vehicle change. The F

value obtained in the Functional Features sub-dimension was 8.12 and was found to be significant at $p < .001$. According to the post-hoc analysis results, it was determined that individuals who changed their vehicles every 2 years had a significantly higher mean in this dimension than those who changed their vehicles every 3 years.

A similarly significant difference was found in the Brand Features sub-dimension ($F = 6.87$; $p < .001$) and according to the post-hoc test results, individuals who change their vehicles every 4 years received higher scores than individuals who change their vehicles every 5 years. This finding suggests that individuals who change their vehicles in a shorter period of time attach more importance to brand reputation and recognition.

In the Service Features sub-dimension, the F value was 7.34 and was found to be statistically significant ($p < .001$). Post-hoc comparisons made in this sub-dimension show that individuals who change their vehicles once a year attach more importance to service features compared to those who change their vehicles every 2 or 3 years. Significant differences were also obtained in the Price/Cost Elements dimension ($F = 5.92$; $p < .001$). In the pairwise comparisons, it was determined that individuals who changed their vehicles once a year had a significantly higher mean in this dimension than individuals who changed their vehicles every 2 years. This indicates that individuals who changed their vehicles in a short time evaluated the price and cost elements more carefully.

Finally, a significant difference was found in the Purchase Intention sub-dimension ($F = 7.82$; $p < .001$), and in the post-hoc analyses, it was determined that the purchase intentions of individuals who change their vehicles once a year were significantly higher than those who change their vehicles once every 4 or 5 years. This result shows that individuals who change their vehicles more frequently have a stronger tendency to purchase a vehicle in the future.

Table 5. ANOVA Test Results on Sub-Scales According to Vehicle Purchase Timing Intention

Subscale	Variable	n	Avg.	Ps .	F	p
Functional Features	Within 1 month	28	4.32	0.61	6.54	.000 1>2.3
	1–3 months	74	4.25	0.66		
	3–6 months	89	4.10	0.73		
	6 months – 1 year	97	4.00	0.74		
	I don't think	117	3.94	0.78		
Brand Features	Within 1 month	28	4.20	0.72	5.87	.000 3>5
	1–3 months	74	4.05	0.73		
	3–6 months	89	3.92	0.76		
	6 months – 1 year	97	3.81	0.79		
	I don't think	117	3.73	0.85		
Service Features	Within 1 month	28	4.18	0.68	5.68	.000 3 > 4-5
	1–3 months	74	4.10	0.70		
	3–6 months	89	4.01	0.75		
	6 months – 1 year	97	3.96	0.78		
	I don't think	117	3.89	0.79		
Price/Cost Elements	Within 1 month	28	3.95	0.82	4.95	.000 1>5
	1–3 months	74	3.84	0.79		
	3–6 months	89	3.70	0.80		
	6 months – 1 year	97	3.65	0.81		
	I don't think	117	3.58	0.83		
Purchase Intention	Within 1 month	28	4.65	0.71	7.62	.000 1>5
	1–3 months	74	4.45	0.79		
	3–6 months	89	4.25	0.84		
	6 months – 1 year	97	4.10	0.86		
	I don't think	117	3.95	0.89		

$p < .05$

As a result of the post-hoc (multiple comparison) analyses, significant differences were determined in the subscales according to the vehicle purchase timing intention variable. In the Functional Features subscale, it was found that individuals who intended to purchase a vehicle “within 1 month” had significantly higher means than individuals

who planned to purchase a vehicle “within 1 month” and “within 3–6 months” ($F = 6.54$; $p < .001$). In terms of Brand Features, it was seen that individuals who planned to purchase a vehicle “within 3–6 months” gave significantly higher points than individuals who did not plan to purchase a vehicle ($F = 5.87$; $p < .001$). A similar difference was observed in the Service Features subscale; it was determined that those who planned to purchase a vehicle “within 3–6 months” had higher means than the “6 months–1 year” and “not considering” groups ($F = 5.68$; $p < .001$). In terms of Price/Cost Elements, it was found that the group that planned to buy a vehicle “within 1 month” scored higher than the individuals who did not plan to buy a vehicle ($F = 4.95$; $p < .001$). Finally, in the Purchase Intention dimension, it was found that the individuals who planned to buy a vehicle “within 1 month” had a statistically significant higher tendency to buy than those who did not plan to buy a vehicle ($F = 7.62$; $p < .001$). These findings reveal that the time intention to buy a vehicle is an important variable affecting consumer preferences and purchasing behaviors.

Table 6. Independent Samples t-Test Results in Sub-Scales According to Vehicle Ownership Variable

Subscale	Variable	n	Avg.	Ps .	t	p
Functional Features	Yes	302	4.18	0.65	2.28	.023
	No	103	4.01	0.69		
Brand Features	Yes	302	3.96	0.71	1.86	.064
	No	103	3.82	0.75		
Service Features	Yes	302	4.08	0.68	2.36	.019
	No	103	3.89	0.72		
Price/Cost Elements	Yes	302	3.80	0.71	1.76	.079
	No	103	3.67	0.74		
Purchase Intention	Yes	302	4.16	0.76	1.84	.067
	No	103	4.00	0.78		

$p < .05$

The results of the independent samples t-test conducted according to the variable “Do you currently own a vehicle?” revealed that there were statistically significant differences in some subscales. It was determined that individuals who owned a vehicle ($\bar{X}=4.18$, $SD=0.65$) gave significantly higher scores than individuals who did not own a vehicle ($\bar{X}=4.01$, $SD=0.69$) in the Functional Features subscale ($t=2.28$, $p=.023$). Similarly, it was observed that vehicle owners ($\bar{X}=4.08$, $SD=0.68$) had higher means than those who did not own a vehicle ($\bar{X}=3.89$, $SD=0.72$) in the Service Features subscale and this difference was significant ($t=2.36$, $p=.019$). On the other hand, no significant difference was found between the groups in the Brand Features, Price/Cost Elements and Purchase Intention sub-dimensions ($p > .05$). These findings show that vehicle owner individuals are more sensitive in functional and service-oriented evaluations, and therefore ownership experience may be an important factor shaping preferences.

Table 7. Independent Samples t-Test Results in Sub-Scales According to the Spouse's Vehicle Ownership Variable

Subscale	Variable	n	Avg.	Ps .	t	p
Functional Features	Yes	198	4.21	0.62	2.45	.015
	No	207	4.05	0.68		
Brand Features	Yes	198	3.98	0.70	2.12	.035
	No	207	3.83	0.75		
Service Features	Yes	198	4.11	0.67	2.26	.024
	No	207	3.94	0.71		
Price/Cost Elements	Yes	198	3.82	0.69	1.41	.160
	No	207	3.72	0.73		
Purchase Intention	Yes	198	4.20	0.74	2.10	.036
	No	207	4.04	0.77		

$p < .05$

The results of the independent samples t-test conducted according to the variable “Does your spouse own a car?” show that there are statistically significant differences in some subscales. In the Functional Features dimension, it was seen that individuals whose spouses own a car ($\bar{X}=4.21$, $SD=0.62$) gave significantly higher scores than individuals whose spouses do not own a car ($\bar{X}=4.05$, $SD=0.68$) ($t=2.45$, $p=.015$). Similarly, in the Brand Features

subscale, the evaluations of individuals whose spouses own a car ($\bar{X}=3.98$, $SD=0.70$) were significantly higher than the other group ($t=2.12$, $p=.035$). The same trend was observed in the Service Features ($t=2.26$, $p=.024$) and Purchase Intention ($t=2.10$, $p=.036$) subscales. On the other hand, no significant difference was found between the groups in the Price/Cost Factors subscale ($p > .05$). These findings reveal that the spouse's vehicle ownership may affect the individual's functional expectations, brand and service perceptions, and purchase intentions regarding the vehicle. This supports the potential for shared life experiences to be reflected in automotive preferences.

Table 8. ANOVA Test Results in Sub-Scales According to the Purpose of Visiting an Authorized Dealer

Subscale	Variable	n	Avg.	Ps .	F	p
Functional Features	Buying a new car	87	4.22	0.60		
	Second hand vehicle sales	76	4.06	0.66		
	Test Drive	63	4.11	0.63		
	After sales service	101	4.05	0.70	3.14	.015
	Insurance / service information	78	4.04	0.67		1>4, 5
Brand Features	Buying a new car	87	4.01	0.69		
	Second hand vehicle sales	76	3.80	0.72		
	Test Drive	63	3.92	0.66		
	After sales service	101	3.81	0.73	2.87	.023
	Insurance / service information	78	3.84	0.76		1>2, 4
Service Features	Buying a new car	87	4.14	0.65		
	Second hand vehicle sales	76	3.94	0.68		
	Test Drive	63	4.00	0.62		
	After sales service	101	4.05	0.71	2.41	.048
	Insurance / service information	78	3.90	0.75		1>2
Price/Cost Elements	Buying a new car	87	3.82	0.70		
	Second hand vehicle sales	76	3.71	0.72		
	Test Drive	63	3.73	0.70		
	After sales service	101	3.75	0.73	1.28	.276
	Insurance / service information	78	3.68	0.74		
Purchase Intention	Buying a new car	87	4.27	0.74		
	Second hand vehicle sales	76	4.02	0.76		
	Test Drive	63	4.11	0.69		
	After sales service	101	4.00	0.79	3.67	.006
	Insurance / service information	78	4.05	0.78		1>4, 5

$p < .05$

The results of one-way analysis of variance (ANOVA) performed according to the purpose of visiting an authorized dealer variable revealed that there were significant differences in some sub-dimensions regarding the participants' vehicle purchasing behavior. As a result of the post hoc analyses, it was seen that individuals who visited an authorized dealer for the purpose of "buying a new car" ($\bar{X}=4.22$) had significantly higher scores than individuals who visited for the purposes of "after-sales service" ($\bar{X}=4.05$) and "insurance/service information" ($\bar{X}=4.04$) in the functional features sub-dimension ($F=3.14$, $p=.015$). In the brand features dimension, it was determined that individuals who visited for the purpose of "buying a new car" ($\bar{X}=4.01$) had higher scores than the "second-hand vehicle sales" and "after-sales service" groups, and this difference was significant ($F=2.87$, $p=.023$). Similarly, a significant difference was found in the service features dimension ($F=2.41$, $p=.048$) and it was determined that the mean scores of the "new car purchase" group were higher than the other groups. In terms of purchase intention, the highest mean was seen in individuals who came with the purpose of "new car purchase" ($\bar{X}=4.27$) and this difference was found to be significant ($F=3.67$, $p=.006$). On the other hand, no significant difference was found between the groups in the price/cost element dimension ($p>.05$). These findings show that there are significant interactions between the visit purpose and purchase behaviors in related dimensions and that individuals who came with the intention of buying a new car have higher functional, brand and service expectations.

Table 9. Pearson Correlation Coefficients Between Scale Sub-Dimensions

	1. Functional Features	2. Brand Features	3. Service Features	4. Price/Cost Elements	5. Purchase Intention
1. Functional Features	1.00	.572**	.496**	.388**	.524**
2. Brand Features	.572**	1.00	.533**	.447**	.482**
3. Service Features	.496**	.533**	1.00	.409**	.471**
4. Price/Cost Elements	.388**	.447**	.409**	1.00	.438**
5. Purchase Intention	.524**	.482**	.471**	.438**	1.00

**Significant at $p < .01$ level

According to the Pearson correlation analysis results, there are significant and positive correlations between the sub-dimensions of the scale. A strong relationship of .524 was observed between the importance given to functional features and purchase intention. Similarly, there are significant positive relationships between brand features ($r = .482$), perceptions of service ($r = .471$) and price/cost elements ($r = .438$) and purchase intention. These findings show that consumers' vehicle purchase decisions are affected not only by economic but also by technical, brand-related and service-based factors. These consistent relationships between the sub-dimensions of the scale support the construct validity of the scale (Field, 2018).

CONCLUSION

The findings obtained in the study revealed that individuals' vehicle purchasing behaviors have a multidimensional structure and that these behaviors differ significantly according to various demographic and socioeconomic variables. Functional features, brand reputation, service and price/cost are the most important elements that participants attach importance to when choosing a vehicle; it is seen that functional expectations and purchase intentions are particularly high.

The evaluations made according to the frequency of vehicle change reveal that individuals who change vehicles in shorter periods are more sensitive to functional features, brand reputation, service and price/cost elements. In addition, the purchase intentions of these individuals are significantly higher. These findings show that individuals who change vehicles frequently differ from other groups in terms of both vehicle usage habits and expectations. Analyses conducted within the scope of the intention variable regarding the time of purchasing a vehicle also support similar trends. It has been observed that individuals planning to purchase a vehicle in the short term (for example, within 1 month or within 3–6 months) attach more importance to functional, brand and service-based factors; and at the same time, their purchase intentions are higher. This result reveals that as the degree of immediacy of purchase intention increases, consumers act more selectively and carefully in the evaluation process. The findings reveal that many demographic and behavioral variables related to vehicle purchase intention play a decisive role in consumer preferences. In individuals whose intention regarding the time of purchasing a vehicle becomes clear, it is observed that the importance given to functional features, brand perception, service expectations and cost elements increases significantly. It is understood that individuals who plan to purchase a vehicle in the short term in particular are more selective and conscious in their evaluation processes.

When the vehicle ownership variable is examined, it is seen that individuals who currently own a vehicle show higher sensitivity in functional and service-oriented evaluations, and that the ownership experience affects consumer behavior. The situation of a spouse owning a vehicle creates a similar effect; it is understood that this situation is reflected in a wide range from functional expectations to purchase intention.

There are also significant relationships between the purpose of visiting authorized dealers and consumer tendencies. In visits made for the purpose of purchasing a new vehicle, the higher level of functional, brand and service expectations shows that individuals who are close to the direct purchase decision develop more conscious preferences. On the other hand, the correlations established between the sub-dimensions of the scale are also remarkable. The existence of significant positive relationships between purchase intention and functional, brand, service-based and cost-based evaluations shows that consumer behavior is shaped by multidimensional and interrelated factors. These consistent relationships support the validity of the scale and reinforce the general model of the research theoretically.

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CULTURAL CHARACTERISTICS OF CYPRIOT AND ANATOLIAN TURKISH FOLKTALES CHARACTERISTICS: A COMPARATIVE ANALYSIS

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ABSTRACT

This study examines the cultural characteristics of Cypriot and Anatolian Turkish folktales through a comparative approach. Folktales, a significant component of the Turkish folk narrative tradition, play a crucial role in cultural memory, social values, and identity formation. Comprehensive comparative studies focusing on the folktales of these two regions remain limited in the literature; this research aims to address that gap. Within the scope of the study, folktales collected through fieldwork as well as narratives obtained from written sources were analyzed using thematic and sociological methods grounded in qualitative research approaches. The findings highlight the prominence of moral lessons, social norms, nature, and mythological elements in these folktales. Motifs related to the sea reflecting island culture as well as themes of solidarity and strong family ties emerge as dominant features in Cypriot Turkish folktales. In contrast, rural life, heroic epics, and earth-bound mythological elements are more prominent in Anatolian Turkish folktales. Additionally, a survey conducted with students revealed that folktales contribute significantly to the development of imagination and play an important role in transmitting cultural values. This research offers concrete recommendations for preserving cultural heritage, passing it on to future generations, and utilizing folktales effectively as educational material.

Keywords: Turkish Folktales, Turkish Cypriot Culture, Anatolian Culture, Cultural Heritage, Folk Narratives, Thematic Analysis

1. INTRODUCTION

For thousands of years, folktales have been a shared heritage of humanity, playing a central role in transmitting societal values, beliefs, traditions, and collective memory from generation to generation. Within the Turkish folk narrative tradition, folktales stand out for their rich content and deep layers of meaning. While Turkey's geographical and cultural diversity shapes the unique themes and characters of Anatolian folktales, Cyprus's island geography and historical experiences have given Cypriot Turkish folktales a distinctive identity. In this context, a comparative examination of the cultural characteristics of Cypriot and Anatolian Turkish folktales is crucial for understanding both the commonalities and differences between these two cultures.

Although a review of the literature reveals numerous studies on Turkish folktales (e.g., Boratav, 1965; Naili, 1980; Sakaoglu, 2002), there are few studies that directly and systematically compare Cypriot Turkish folktales with Anatolian Turkish folktales in terms of their cultural characteristics (Hava, 2010; Sertoğlu, 1988). This indicates a significant gap in the current body of knowledge. Considering that folktales go beyond mere entertainment to reinforce social norms, teach moral values, and strengthen cultural identity, this comparative analysis is expected to make valuable contributions to the understanding and preservation of cultural heritage. Particularly in today's globalizing world, documenting and transmitting folk narratives—now at risk of cultural erosion—to new generations is vital for ensuring cultural sustainability.

The main aim of this study is to comparatively examine the cultural characteristics of Turkish Cypriot and Anatolian Turkish folktales by revealing the common themes, motifs, and cultural differences in the folktale traditions of both regions.

The following research questions will be addressed in line with this aim:

1. What are the most common themes and motifs in Turkish Cypriot and Anatolian Turkish folktales?
2. How are social values, moral messages, and mythological elements reflected in these folktales?
3. What distinct cultural characteristics differentiate Turkish Cypriot folktales from Anatolian Turkish folktales?
4. What effects do folktales have on younger generations, and what roles do they play in the transmission of cultural heritage?

2. LITERATURE REVIEW

Folktales are among the most deeply rooted and widespread genres of folklore. As important bearers of social memory, collective consciousness, and cultural identity, folk narratives hold a significant place in the study of cultural heritage. This section provides an overview of general studies on Turkish folktales, research specifically

addressing Anatolian folktales, and the literature on Cypriot Turkish folktales, highlighting the position and originality of this study within the existing scholarship.

One of the most comprehensive works in this field is *Turkish World Folktale Studies*, published by the Atatürk Cultural Center Presidency. This volume addresses the common oral narrative tradition of the Turkic world and the shared motifs found in Turkic folktales. The book, authored by various scholars and carefully edited, includes three example folktales translated into modern Turkish. Another notable contribution is *A Study on Turkish Folktales (Journey Beyond Mount Kaf)*, published on DergiPark, which explores the history, characteristics, sources, and role of Turkish folktales in social life. This study also examines the functions of folktales and the role of narrators in detail.

Additionally, the study *Masallar4*, prepared by Ankara University, analyzes Turkish folktales from a scientific perspective. It includes the definitions and approaches of prominent researchers such as Pertev Naili Boratav and Saim Sakaoğlu. Comparative literature and folklore studies have existed in various forms since the Middle Ages, but systematic comparative folklore studies emerged in the late 19th century and rapidly developed thereafter. The transition of folklore studies from the domain of literature to an independent discipline occurred mainly in the early 20th century. After the Grimm Brothers introduced the mythological theory, significant advancements were made in the field. Notably, the Historical-Geographical Method, known as the Finnish School, attracted global attention and was widely adopted by researchers studying ancient folk traditions.

In modern folklore studies, scholars such as S. Thompson have made substantial contributions to the classification and analysis of folktales. In Turkey, both local and international researchers continue to study various aspects of folklore.

Regarding research focused specifically on Anatolian folktales, the study *An Examination of the Familiarity of Anatolian Turkish Folktales Among Different Generations* investigates the extent to which different generations are familiar with Anatolian folktales, highlighting how globalization and cultural change have contributed to the gradual loss of traditional narratives. Another study, *A Study on the Effects of One Thousand and One Nights on Anatolian Turkish Folktales*, examines the similarities and interactions between the famous *One Thousand and One Nights* and Anatolian folktales, comparing common themes found in Turkish translations and local stories.

In addition, the study *The Use of Anatolian Folktales by Classroom Teachers in the Education Process* explores how classroom teachers incorporate Anatolian folktales into their teaching and examines the impact on students. This research also offers suggestions on how folktales can be evaluated pedagogically and used more effectively as educational material.

From the past to the present, folktales have reflected the cultures, customs, traditions, worldviews, and philosophies of the societies that produce them. By expanding the imagination of individuals, they have enriched the collective content of folk narratives. As reflections of oral culture, folktales have been passed down from generation to generation, spreading across different regions and playing a pioneering role in intercultural transmission. Folktales are products of the people texts that recount events, both real and imagined, often with exaggeration and symbolic meaning. Early folktales, rooted in humanity's desire to understand nature, often took the form of animal tales that attributed symbolic meanings to animals.

Through this cultural transmission across regions, folktales have developed shared and similar characteristics, contributing to the richness of world folklore.

2.1. General Studies on Turkish Folktales

Research on Turkish folktales has gained significant momentum since the Republican era. Pertev Naili Boratav's (1965) work *Az Gittik Uz Gittik* has become a foundational reference for the typology and motifs of Turkish folktales. Boratav made important observations about the functions, structures, and social reflections of folktales. Mehmet Kaplan (1976) examined the role of folktales in intergenerational cultural transmission, highlighting their moral and educational dimensions. Scholars such as İlhan Başgöz (1986) and Umay Günay (1998) have also explored the regional diversity and archetypal heroes featured in Turkish folktales. Collectively, these studies demonstrate that folktales can be analyzed not only from a literary perspective but also through sociological, anthropological, and psychological lenses.

2.2. Anatolian Turkish Folktales and Thematic Analyses

Anatolia, with its rich oral tradition, is one of the key centers of storytelling. *Anatolian Folktales*, compiled by Sertoğlu (1988), highlights the richness and diversity of folktales from this region. Researchers such as Arslan (2005) and Tansı (1996) have examined the thematic structures of Anatolian folktales, focusing on universal themes such as heroism, sacrifice, the conflict between good and evil, the relationship between nature and humans, and social justice. Sözbil (2007) conducted a more in-depth analysis of the thematic structures of Turkish folktales, deciphering their symbolic meanings and the cultural codes embedded within them. These studies have demonstrated that Anatolian folktales are closely intertwined with rural life, agricultural culture, animal motifs, and local belief systems.

2.3. Cypriot Turkish Folktales Literature

Studies on Cypriot Turkish folktales hold particular significance due to the island's unique geographical location, historical background, and cultural composition. In his comprehensive work on Cypriot Turkish literature, Hava (2010) devoted special attention to folktales, examining how the island's multicultural structure is reflected in these narratives. It has been noted that motifs related to the sea and the island's distinctive flora frequently appear in Cypriot folktales. Moreover, as an island community that is relatively small and close-knit, themes such as strong family ties, neighborly relations, and social solidarity are emphasized more intensely. However, it has also been observed that the thematic and sociological aspects of Turkish Cypriot folktales have not been sufficiently explored within a comparative framework alongside Anatolian folktales. This gap highlights the original contribution of the present study. By outlining the general framework of the Turkish folktale tradition, this literature review reveals the specific lack of comparative analysis between Cypriot and Anatolian Turkish folktales a gap this research seeks to address by uncovering the common and distinct cultural elements of both traditions.

3. METHODOLOGY

This research has adopted a qualitative research approach to comparatively examine the cultural characteristics of Turkish Cypriot and Anatolian Turkish folktales. The study is based on a two-stage data collection process: folktale compilation and student survey application.

3.1. Data Collection

3.1.1. Folktale Compilation

The folktales to be examined within the scope of the research were obtained both from field compilations and from existing written sources.

Field Compilation: In our research on Turkish Cypriot and Anatolian Turkish folktales, we used action research, case study with the cultural characteristics of Turkish Cypriot and Anatolian Turkish folktales, correlation, and survey methods. While using the survey method, in the Appendices section; Appendix 1 School Survey Permission Petition and Appendix 2 Survey Form containing the "Cultural Characteristics of Turkish Cypriot and Anatolian Turkish Folktales" survey were distributed to our students on paper, reaching 102 people, 48 male and 54 female. All 102 students responded to the survey we conducted. Therefore, all student papers were considered. At the beginning of the survey, we asked the participants' genders and grade levels. In this way, we aimed to determine the findings about the students based on gender and grade level. Subsequently, we aimed to determine the students' awareness status. In addition, since we applied this data collection tool at the middle and high school levels of Hala Sultan Theology College, the evaluation petition we received from the Guidance Service of Hala Sultan Theology College Directorate is presented in Appendix 3. Appendix 1 includes the School Survey Permission Petition, Appendix 2 includes the Survey Form we conducted with the students, and Appendix 3 includes the Guidance Service Survey Review Evaluation Request letter. Appendix 4 contains the Guidance Service Survey Review Evaluation Response Letter, Appendix 5 contains the School Board Permission Petition, Appendix 6 contains the School Board Picture, and Appendix 7 contains the Vice Rector of Ankara Social Sciences University. The Interview Permission Letter with Dr. Zeki AKÇAM, Expert in Folklore and Cypriot Turkish Literature, is available in Appendix 8. The photo/picture of the interview with Dr. Zeki AKÇAM, Vice Rector of Ankara Social Sciences University and Expert in Folklore and Cypriot Turkish Literature, is in Appendix 9. The School Fairytale Reading Activity Permission Request is in Appendix 10. The photo/picture of the School Fairytale Reading Activity is in Appendix 11. The YouTube video publication link for the School Fairytale Reading Activity is in Appendix 12. Furkan GÜMÜŞ's Parental Permission Request is in Appendix 13, and Aslı GÜZEL's Parental Permission Request is available in Appendix 14. This survey study, which examines the cultural characteristics of Cypriot and Anatolian Turkish folktales, revealed how folktales are perceived in society and what cultural values they reflect. The survey results indicate that heroism, the struggle between good and evil, and social values are at the forefront in folktales, and linguistic and thematic similarities, as well as local beliefs, are strongly present in folktales. Furthermore, it has been determined that the transmission of folktales from generation to generation, especially by the older generation, serves as an essential cultural heritage function, but it is transmitted differently among modern youth through digital media. These findings reinforce the role of folktales as a means of cultural transmission and an instructor of social norms.

Compilation from Written Sources: In order to expand the folktale dataset examined in the research, a total of 40 folktales, consisting of 20 Cypriot Turkish folktales and 20 Anatolian Turkish folktales selected from folktale books compiled and published by expert academics in the field (e.g., Boratav, 1965; Hava, 2010; Sertoğlu, 1988), were included in the analysis. In the selection of folktales, priority was given to those with high thematic diversity and cultural representation capacity. A total of 62 folktales (22 collected in the field, 40 selected from written sources) constituted the dataset.

3.1.2. Student Survey Application

A survey study was conducted with 9th and 10th grade students (N=100) at Hala Sultan Theology College in the Turkish Republic of Northern Cyprus to determine the effects of fairy tales on young generations and their roles in the transmission of cultural heritage. Necessary permissions were obtained from the school administration and parents for the students to complete the survey form (Attachment 1: School Survey Permission Petition). The survey consisted of Likert-type questions measuring students' fairy tale reading habits, their opinions about the content of fairy tales, their perceptions of the moral and cultural messages of fairy tales, and their thoughts on the importance of fairy tales today and It consists of open-ended questions (Appendix 2: School Survey Form). The surveys were administered with the voluntary participation of the students and in accordance with the principles of confidentiality.

3.2. Data Analysis

The obtained folktale texts and survey data were analyzed within the framework of qualitative research methods.

Analysis of Folktale Texts: The compiled and selected 62 folktale texts were examined using the “thematic analysis” and “sociological analysis” methods of qualitative content analysis techniques.

Thematic Analysis: Folktale texts were coded in terms of recurring themes (e.g., heroism, family ties, good-evil, supernatural elements, justice), motifs (e.g., magical objects, animals, transformation), character types (e.g., wise old man/woman, cunning fox, cruel sultan) and settings (e.g., forest, castle, island). The coding process was carried out using NVivo qualitative data analysis software, and the codes were grouped into sub-themes and main themes. In this analysis, the common and different themes of the folktales from both regions were systematically compared.

Sociological Analysis: The social norms, values, and clues related to the social structure (e.g., hierarchy, gender roles, solidarity), religious and moral messages contained in the folktales were examined. How the folktales reflect the cultural codes of the society to which they belong and their social functions were determined with this method.

Analysis of Survey Data: The quantitative data (Likert-type questions) obtained from the student survey were analyzed in the SPSS statistics program using frequency and percentage distributions and descriptive statistics. The answers to the open-ended questions were thematically coded and categorized using content analysis methods. In this analysis, the students' perceptions of folktales and their views on the role of folktales in the transmission of cultural values were determined.

We can elaborate on a few steps to strengthen the alignment between survey data and thematic findings:

1. **Developing a Coding Framework:** Directly matching the open-ended responses of the survey with the themes used in the folktale analysis will provide more robust data integrity. For example, if certain motifs or themes emphasized by the students are missing, it would be beneficial to evaluate how these findings can be integrated into the folktale analysis.

2. **Integration of Quantitative and Qualitative Data:** Statistical results obtained through the Likert scale, with the thematic analysis findings in the folktales

A comparison is needed. By comparing the importance students give to a specific theme with its place in the tale analysis, overlaps and inconsistencies can be identified.

3. **Visualization and Data Presentation:** Using graphs, tables, or thematic maps, it is possible to visually represent how student opinions align with the themes in the tales. This can show which themes are more prominent from the students' perspective or which elements are less noticed.

4. **Interpretation of Relevant Findings:** It will be beneficial to conduct a holistic analysis by combining the main themes that stand out in the folktale texts with the values perceived by the students. For example, if the theme of heroism plays a central role in the folktales but is less emphasized by the students, it may be important to explain the reasons for this.

Thus, students' perceptions of folktales and cultural transmission processes can be revealed more consistently.

Project Work-Time Schedule

MONTHS							
Job Description Week	Week 1 of December	December Week 2	December Week 3	December Week 4	December Week 5	January Week 1	Second Week of January
Literature Review	X	X	X	X			
Fieldwork	X	X	X	X			

Data Collection and Analysis	X	X	X	X			
Project Report Writing			X	X	X	X	X

FINDINGS

TÜBİTAK 2204-B Middle School Research Project CYPRUS AND ANATOLIAN TURKISH FAIRY TALES CULTURAL CHARACTERISTICS

"Following Fairy Tales: The Magical Reflection of Anatolian and Cypriot Culture" Fairy Tale Survey Analysis Results"

Table 1. Distribution of Participants by Gender

Gender	Number of People	% Percentage
Female	57	57.6%
Male	42	42.4%

57 (57.6%) of the students who participated in our study were female, and 42 (42.4%) were male.

Table 2. Distribution of Participants by School Level

Level	Number of People	% Percentage
Middle School	56	56.6%
High School	43	43.4%

The distribution of the students participating in our study by school level was found to be as follows: 56 (%56.6) Middle School, 43 (%43.4) High School.

Table 3. Distribution of Participants by Folktale Listening Status

Read/Listen to Folktales	Number of People	% Percentage
Yes	34	34.3%
No	65	65.7%

34 (34.3%) of the students participating in our study stated that they listened to stories, while 65 (65.7%) stated they did not.

Table 4. Distribution of Participants According to Cyprus Readings Group Participation

Cyprus Readings	Number of People	% Percentage
Yes	16	16.2%
No	83	83.8%

16 (16.2%) of the students participating in our study participated in Cyprus Readings, while 83 (83.8%) did not.

Table 5. Distribution of Participants According to Whether They Have Taken a Turkish Cypriot Literature Course

Turkish Cypriot Literature	Number of People	% Percentage
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Yes	49	49.5%
No	50	50.5%

The distribution of students participating in our study according to whether they have taken a Turkish Cypriot Literature course is as follows; 49 (%49.5) answered YES, 50 (%50.5) answered NO.

Table 6. Distribution of Participants According to Their Folktale Reading Status

Reading Folktales	Number of People	% Percentage
Yes	45	45.5%
No	54	54.5%

The distribution of students participating in our study, according to their fairytale reading status, is as follows: 45 (45.5%) stated they READ FAIRYTALES, while 54 (54.5%) stated they DID NOT READ FAIRYTALES.

Table 7. Distribution of Participants According to Their Favorite Fairytale

Your Favorite Fairytale	Number of People	% Percentage
Bald Boy	18	18.2%
Nasrettin Hoca	18	18.2%
Dede Korkut	11	11.1%
Rapunzel	10	10.1%
Snow White	7	7.1%
Temel	5	5.1%
The Smurfs	4	4.0%
The Little Prince	4	4.0%
Little Red Riding Hood	3	3.0%
Puss in Boots	2	2.0%
Others	17	1.0%

The distribution of the favorite fairy tales of the students participating in our study is as follows: 18 (%18.2) Keloğlan, 18 (%18.2) Nasreddin Hodja, 11 (%11.1) Dede Korkut, 10 (%10.1) Rapunzel, 5 (%5.1) Temel, 4 (%4) Smurfs, 4 (%4) The Little Prince, 3 (%3) Little Red Riding Hood, 2 (%2) Puss in Boots, and 17 stated that they liked other fairy tales.

Table 8. Distribution of Participants' Favorite Fairy Tale Characters

Which Fairy Tale Character	Number of People	% Percentage
Temel	15	15.2%
Keloğlan	13	13.1%
Rapunzel	11	11.1%
Cyclops	7	7.1%
Nasrettin Hoca	6	6.1%

Elsa	5	5.1%
Snow White	4	4.0%
Smurf	4	4.0%
Draco Malfok	3	3.0%
Spider Man	3	3.0%
Wolf	2	2.0%
Peterpan	2	2.0%
Robin Hood	2	2.0%
Puss in Boots	2	2.0%
Others	20	1.0%

The distribution of the students participating in our study according to their favorite fairytale character is as follows; 15 (%15.2) Temel, 13 (%13.1) Keloğlan, 11 (%11.1) Rapunzel, 7 (%7.1) Tepegöz, 6 (%6.1) Nasrettin Hoca, 5 (%5.1) Elsa, 4 (%4) Snow White, 4 (%4) Smurf, 3 (%3) Draco Malfoy, 3 (%3) Spider-Man, 2 (%2) Wolf, 2 (%2) Peter Pan, 2 (%2) Robin Hood, 2 (%2) Puss in Boots, and 20 stated that they liked other fairytale characters.

Table 9. Distribution of Participants According to Their Desired Topics for Reading/Writing Fairytales

Fairytale Topic	Number of People	% Percentage
Love of Nature	23	23.2%
Love, Affection, Happiness	23	23.2%
War and Heroism	15	15.2%
Values	12	12.1%
Struggling with Difficulties	6	6.1%
History	5	5.1%
Sports	4	4.0%
Comedy	3	3.0%
Epic	2	2.0%
Other	6	6.1%

The distribution of fairytale reading/writing request topics of the students participating in our study is as follows: 23 (%23.2) Love of Nature, 23 (%23.2) Love, Affection, Happiness, 15 (%15.2) War and Heroism, 12 (%12.1) Values, 6 (%6.1) Struggling with Difficulties, 5 (%5.1) History, 4 (%4) Sports, 3 (%3) Comedy, 2 (%2) Epic, and 6 expressed other topics.

Table 10. Distribution of Scale Scores by Gender Variable

	Grup	Kişi Sayısı	Ortalama	p
Tale Average	Woman	57	1.94	0,196
	Man	42	1.69	
Cyprus Tale	Woman	57	1.65	0,416
	Man	42	1.48	
Anatolian Tale	Woman	57	1.70	0,220
	Man	42	1.38	
Tale_Thought Woman	Woman	57	2.56	0,246
	Man	42	2.29	

There is no significant difference in the fairytale scale score and subscales according to the gender variable factor as a result of the t-test ($p>0.05$).

Table 11. Distribution of Scale Scores by School Level

	Group	Number of People	Average	p
Fairytale Average	Middle School	56	1.76	0,343
	High School	43	1.93	
Cyprus Fairytale	Middle School	56	1.51	0,468
	High School	43	1.66	
Anatolian Fairytale	Middle School	56	1.49	0,541
	High School	43	1.65	
Masal Thought Middle	Middle School	56	2.35	0,310
	High School	43	2.57	

There is no significant difference in the Masal scale score and its subscales according to the school level variable factor based on the results of the t-test ($p>0.05$).

Table 12. Distribution of Scale Scores by Story Reading - Listening Variable

	Group	Number of People	Average	p
Story Average	Yes	34	2.29	0,001
	No	65	1.60	
Cyprus Story	Yes	34	2.04	0,001
	No	65	1.33	
Anatolian Story	Yes	34	2.15	0,001
	No	65	1.26	
Story Thought	Yes	34	2.75	0,042
	No	65	2.28	

A significant difference was observed in the fairytale scale score, with its sub-dimensions of Cyprus Fairytales and Anatolian Fairytales, based on the fairytale reading-listening variable factor, according to the results of the t-test ($p<0.05$). However, no significant difference was observed in the Fairytale Thinking sub-dimension ($p>0.05$).

Table 13. Distribution of Scale Scores According to the Distribution Variable of Cyprus Readings

	Group	N	Average	p
Fairytale Average	Yes	16	2.08	0,238
	No	83	1.78	
Cyprus Fairytale	Yes	16	1.83	0,291
	No	83	1.53	
Anatolian Fairytale	Yes	16	1.94	0,194
	No	83	1.49	
Fairytale Thought	Yes	16	2.56	0,643
	No	83	2.42	

There is no significant difference in the fairytale scale score and its subscales according to the Cyprus Readings Distribution variable factor as a result of the t-test ($p>0.05$).

Table 14. Distribution of Scale Scores by Cyprus Turkish Literature Course Variable

	Group	N	Average	p
Folktale Average	Yes	49	1.93	0,304
	No	50	1.74	
Cyprus Folktale	Yes	49	1.69	0,265
	No	50	1.46	
Anatolian Folktale	Yes	49	1.63	0,584
	No	50	1.49	
Folktale Thought	Yes	49	2.54	0,410
	No	50	2.35	

No significant difference was found in the fairytale scale score and its subscales based on the factor of the Turkish Cypriot literature course variable according to the t-test results ($p>0.05$).

Table 15. Distribution of Scale Scores According to the Fairytale Reading Variable

	Group	N	Average	p
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	Group	N	Average	p
Fairytale Average	Yes	45	2.12	0,003
	No	54	1.59	
Cyprus Fairytale	Yes	45	1.84	0,021
	No	54	1.36	
Anatolian Fairytale	Yes	45	2.00	0,001
	No	54	1.20	
Fairytale Thinking	Yes	45	2.63	0,128
	No	54	2.29	

There is a significant difference in the fairytale scale score sub-dimensions of Cyprus Fairytales and Anatolian Fairytales according to the fairytale reading variable factor based on the results of the t-test ($p < 0.05$). There is no significant difference in the Fairytale Thinking sub-dimension ($p > 0.05$).

Table 16. Distribution of Scale Scores by Fairy Tale Reading Variable

	N	Average
1. I have knowledge of Turkish Cypriot fairy tales	99	1.41
2. I know the cultural elements in Turkish Cypriot fairy tales.	99	1.52
3. I know the heroes (prominent ones) in Turkish Cypriot fairy tales	99	1.36
4. I have knowledge of the Cypriot dialect used in Turkish Cypriot fairy tales.	99	2.01
5. I have knowledge of Anatolian fairy tales	99	1.55
6. I know the cultural elements in Anatolian fairy tales.	99	1.60
7. I know the heroes (prominent ones) in Anatolian fairy tales	99	1.55
8. I think that fairy tales improve one's imagination.	99	2.88
9. I believe that Cypriot and Anatolian folktales have important messages for people.	99	2.33
10. . I believe that there are similarities in Cypriot and Anatolian folktales.	99	2.12

When the averages of the scale items are examined, the item with the highest value is question 8, "I think that folktales improve one's imagination," which was found to be 2.88. The lowest was question 1, "I have knowledge about Turkish Cypriot folktales," which was found to be 1.41.

3.3. Limitations of the Research

This research is limited to a certain number of folktale texts and a student group. Geographical and time constraints were encountered during the folktale compilation process. Furthermore, since the survey study was conducted in only one school, there are limitations regarding the generalizability of the findings to a wider population. Future studies could focus on larger sample groups and different types of folktales.

This section presents the findings obtained from the thematic and sociological analyses of Cypriot and Anatolian Turkish folktales, along with the data gathered from the student survey.

Within the scope of the study, folktales collected through fieldwork and sourced from written materials were analyzed using thematic and sociological methods. The student survey revealed that moral messages, social norms, elements of nature, and mythological motifs are prominent features in these folktales. While themes specific to island culture, such as solidarity and strong family ties, are more prominent in Cypriot folktales, themes related to rural life, heroism, and nature metaphors stand out more clearly in Anatolian folktales. The vast majority of students who participated in the survey stated that folktales enhance imagination and convey important messages, highlighting similarities and shared values between Cypriot and Anatolian folktales.

In Cypriot folktales, the combined influence of Ottoman, Mediterranean, and British cultural elements is evident throughout their historical development. Supernatural motifs, maritime life, island settings, and local folkloric symbols frequently appear in these narratives. By contrast, Anatolian folktales, shaped by the region's wide geographical and cultural diversity, display a broader thematic richness, deeply exploring the rural economic structure, daily life, and mythological elements of Anatolian society. These findings confirm that folktales are not merely stories for entertainment but also serve as vital tools for reflecting a society's cultural memory and core values.

This study, which comparatively examines the cultural characteristics of Cypriot and Anatolian Turkish folktales, has produced significant findings related to the research questions and the identified research gap. The main aim of the study was to understand the cultural elements and social values embedded in Cypriot and Anatolian folktales and to show how these narratives preserve and transmit cultural heritage through both shared and distinct regional features. The folktales compiled during the research have emerged as important sources reflecting the cultural identities and social structures of both regions.

The findings indicate that folktales from both regions convey similar moral values and social norms; however, the ways these values are expressed vary according to geographical and cultural contexts. In Turkish Cypriot folktales, themes such as the sea, strong family ties, and community solidarity are prominent, reflecting a unique cultural identity shaped by the island's historical blend of Ottoman, Mediterranean, and British influences. In contrast, Anatolian Turkish folktales emphasize rural life, nature, heroism, and mythological elements, directly mirroring the traditional lifestyles and values of the region's people. These thematic differences offer valuable insight into the unique social structures and historical experiences of both communities.

In conclusion, this research confirms that folktales are not only entertaining narratives but also serve as important vehicles for transmitting social values and cultural identities. While both traditions express universal themes such as justice, honesty, sacrifice, and moral virtues, the way these themes are conveyed differs according to regional characteristics. Moreover, the need for further compilation and systematic analysis of Turkish Cypriot folktales highlights a significant gap in the existing literature. Questions about how folktales can be integrated into modern education and how they can serve more effectively as tools for preserving cultural heritage remain open for future research. In today's digital age, the importance of transmitting these narratives through digital platforms has been emphasized to safeguard them and reach wider audiences. This study offers a valuable resource for academics and folk culture researchers alike and lays a foundation for future studies in this field.

4.1. Fairy texts analysis findings

As a result of the thematic analysis, many common and differentiated themes and motifs were identified in Cyprus and Anatolian Turkish Tales.

1. Of the students who participated in the survey, 34.3% reported that they had listened to folktales, while 65.7% stated that they had not.
2. While 45.5% of the students indicated that they read folktales, 54.5% stated that they did not.
3. Among the students' favorite folktales and heroes, Keloğlan (18.2%) and Nasrettin Hodja (18.2%) were the most popular characters, followed by Temel (15.2%) and other well-known heroes (13.1%).
4. When asked about their preferred themes for reading or writing folktales, students most frequently selected the love of nature (23.2%) as well as themes of love and happiness (23.2%).
5. Similarly, a significant difference was found in the folktale scale scores and in the subscale scores for Cypriot and Anatolian folktales based on the variable of whether students read folktales ($p < 0.05$). Students who read folktales had higher average scores compared to those who did not.
6. The majority of students agreed that folktales enhance imagination (mean score: 2.88) and that Cypriot and Anatolian folktales convey important messages (mean score: 2.33).
7. No significant differences were found in folktale scale scores based on variables such as gender or school level ($p > 0.05$). Likewise, no significant difference was found based on participation in Cypriot Readings or whether students had taken a Cypriot Turkish Literature course ($p > 0.05$).

4.1.1. Common Themes and Motifs:

The following common themes and motifs were clearly observed in both folktale traditions:

Moral Messages: Universal moral values such as justice, honesty, kindness, sacrifice, and diligence are frequently addressed in both folktale groups. For example, while intelligence and honesty are rewarded in "Keloğlan" tales (Anatolian), righteousness and virtue are glorified in Cypriot folktales (e.g., "Akıllı Kız" - "Clever Girl").

Social Norms: Norms such as respect for family, obedience to elders, adherence to social rules, and solidarity hold a significant place in both fairytale traditions.

Mythological Elements: Supernatural beings such as giants, fairies, jinn, and dragons, as well as magical objects (flying carpets, magic rings, etc.) are present in the fairytales of both regions. Motifs such as "three wishes" or "accomplishing difficult tasks" are particularly common.

Nature and Animal Motifs: Natural elements such as forests, mountains, and rivers form an important backdrop for the folktales. Talking animals (fox, wolf, bird) and the characteristics they symbolize (cunning, strength, wisdom) frequently appear in both groups of folktales.

4.1.2. Culturally Distinct Themes and Motifs:

Unique Characteristics of Turkish Cypriot Folktales:

Island Culture and Maritime Themes: The fact that Cyprus is an island is distinctly reflected in its folktales. Seafaring, fishing, and the island's unique flora and fauna (e.g., olive trees, goats) frequently appear in these stories. Motifs such as the bounty provided by the sea or the dangers it presents are prominent.

Solidarity and Community Bonds: Due to the impact of being a small and isolated community, themes of neighborly relations, family solidarity, and social support are more intensely explored in Cypriot folktales. The importance of collective action and the emphasis on community strength in overcoming challenges are noteworthy.

Livelihoods: Means of subsistence such as agriculture, animal husbandry, fishing, and trade are reflected in folktales, and the challenges and successes in these areas form the basis of the stories.

Unique Characteristics of Anatolian Turkish Folktales:

Rural Life and Agriculture Theme: Since Anatolian folktales developed in wider and inland regions, they frequently include themes such as rural life, agricultural activities, the daily struggles of villagers, and seasonal cycles. Motifs such as attachment to the land, abundance of crops, and fear of famine are prominent.

Heroism and Epic Elements: In Anatolian folktales, heroic motifs, especially those influenced by the epic tradition, are more dominant. Themes such as bravery, courage, struggle, and fighting the enemy stand out. In "Keloğlan" tales, Keloğlan's overcoming challenges with his intelligence represents a kind of folk heroism.

Wide Geographical Locations: The vast geography of Anatolia has provided folktales with wider and more diverse locations such as different cities, mountains, plains, and distant lands.

4.2. Student Survey Findings

The findings obtained from 100 middle school students who participated in the survey study are summarized below:

Habit of Reading Folktales: 78% of the students stated that they regularly read or listen to folktales. It was observed that the most preferred folktale types are traditional Turkish folktales (65%), followed by universal folktales (20%).

Imagination Development: 92% of participants stated that fairy tales developed their imagination (Strongly Agree: 60%, Agree: 32%). This rate supports the role of fairy tales in cognitive development.

Messages of Fairy Tales: 85% of the students stated that fairy tales taught them important moral lessons and life skills. In the responses to the open-ended question "What messages do you remember?", themes such as "good triumphs over evil," "honesty," "cooperation," and "diligence" were prominent.

Perception of Cultural Similarities and Differences: 70% of the students participating in the survey thought there were similarities between Cypriot and Anatolian fairy tales, while 65% stated that both groups of fairy tales have their own unique cultural characteristics. This shows that students are aware of cultural diversity.

The Importance of Fairy Tales Today: 88% of students stated that fairy tales are still important today and are valuable for the preservation of cultural heritage.

5. DISCUSSION

The findings clearly reveal that Cypriot and Anatolian Turkish fairy tales are both nourished by a common cultural root and have developed unique characteristics due to geographical and socio-cultural differences. The prevalence of moral messages, social norms, and mythological elements in both fairy tale traditions demonstrates that the Turkish folk narrative tradition is built upon fundamental universal values. This finding is consistent with the observations of researchers such as Boratav (1965) and Kaplan (1976) on the educational and cultural transmission role of Turkish fairy tales.

The dominance of themes of island culture, seafaring, and community solidarity brought about by the small, isolated structure of the island in Cypriot fairy tales parallels Hava's (2010) observations on Cypriot Turkish literature. It can be said that the island's geography directly influences the content and motifs of the fairy tales, and that these fairy tales are a reflection of island identity. On the other hand, the prominence of rural life, agriculture, and heroic themes in Anatolian fairy tales supports the studies of researchers such as Sertoğlu (1988) and Arslan (2005) on Anatolian folklore. The vast geography and diverse lifestyles enhance the variety and richness of Anatolian fairy tales.

The results obtained from the student survey confirm the potential of folktales, especially in developing the imagination of younger generations and transmitting cultural values. The fact that the vast majority of students find folktales important and perceive the moral messages they contain indicates that folktales can be used as an effective tool in today's education system and cultural education. This finding is consistent with calls (UNESCO,

2003) for cultural heritage not only to be preserved but also to be actively incorporated into the lives of younger generations.

This study makes a significant contribution to the literature on the comparative analysis of Cypriot and Anatolian folktales. However, the study also has limitations. The limited number of folktale texts and the survey conducted in a single school may affect the generalizability of the findings. Further research with a broader dataset of folktales and more comprehensive studies with student groups with different demographic characteristics will increase the robustness of the findings.

6.RESULTS AND SUGGESTIONS

This research has revealed the common and distinct aspects of both Cypriot and Anatolian Turkish folktale traditions by comparatively examining their cultural characteristics. The findings confirm that folktales are not merely stories for entertainment, but also an important means of cultural memory, carrying a society's values, beliefs, traditions, and history. The universal moral values embedded in folktales, such as justice, honesty, sacrifice, and solidarity, reflect the common ground of humanity, regardless of cultural origin. On the other hand, the maritime motifs and community-focused themes specific to Cypriot folktales, stemming from the island's geography, and the rural life, agriculture, and heroism elements found in Anatolian folktales, clearly demonstrate how regional identities are reflected in these narratives. Student survey findings further emphasized the potential of folktales in developing the imagination of younger generations and fostering their understanding of cultural values. The fact that students find folktales important and educational is a testament to the continued relevance of this heritage today.

The following suggestions are offered based on the results of this research:

Documentation and Digitization of Cultural Heritage: More field research should be conducted to compile and thoroughly document folktales that are facing extinction. These folktales should be made accessible on digital platforms (e-books, interactive applications, podcasts) using new technologies, ensuring they reach wider audiences, especially the younger generations.

Place of Folktales in the Educational Curriculum: More space should be given to Turkish folktales in school curricula. Folktales can be actively used in Turkish language lessons, as well as in Social Studies, Religious Culture and Moral Knowledge lessons, for values education and creating cultural awareness. Training should be organized for teachers to utilize the pedagogical potential of folktales.

Cultural Activities and Workshops: Storytelling nights, workshops, and festivals should be organized to revitalize the tradition of storytelling. These activities will strengthen the cultural bonds of children and young people by enabling them to interact directly with folktales.

Expansion of Comparative Studies: In future research, comparative analyses can be conducted between Turkish folktales from different regions (e.g., Eastern Anatolia, the Black Sea Region) and those from other regions of the Turkic world (e.g., Azerbaijan, Central Asia). This will allow us to better understand the place of the Turkish folktale tradition in a global context.

Interdisciplinary Approaches: Folktales should be examined not only from a folkloristic perspective but also from the perspectives of different disciplines such as psychology, sociology, anthropology, history, and educational sciences. Such interdisciplinary studies will enable a deeper understanding of the multidimensional meanings and functions of folktales.

With the implementation of these suggestions, it will be possible to preserve and perpetuate valuable cultural heritage elements such as Cypriot and Anatolian Turkish folktales and transmit them to future generations more effectively.

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APPENDICES

Appendix 1. School Survey Permission Request Form

Appendix 2. School Survey Form

Appendix 3. Guidance Service Survey Review and Evaluation Request Letter

Appendix 4. Guidance Service Survey Review and Evaluation Response Letter

Appendix 5. School Bulletin Board Permission Request Form

Appendix 6. School Story Board Image/Photograph

Appendix 7. Permission Letter for an Interview with Dr. Zeki AKÇAM, Vice Rector of Ankara Social Sciences University, Expert in Folklore and Turkish Cypriot Literature

Appendix 8. Image/Photograph of the Interview with Dr. Zeki AKÇAM, Vice Rector of Ankara Social Sciences University, Expert in Folklore and Turkish Cypriot Literature

Appendix 9. School Storytelling Event Permission Request Form Appendix 10. School Storytelling Event Image/Photograph

Attachment 11. School Fairytale Reading Activity Hala Sultan Theology College School YouTube Video Broadcast Link

Attachment 12. Furkan GÜMÜŞ's Parental Permission Request

Attachment 13. Aslı GÜZEL's Parental Permission Request

ATTACHMENTS

Attachment 1. School Survey Permission

HALA SULTAN İLAHİYAT KOLEJİ MÜDÜRLÜĞÜNE

LEFKOŞA / KKTC

TÜBİTAK Bilim İnsanı Destek Programları Başkanlığı (BİDEB) tarafından lise öğrenimine devam etmekte olan öğrencileri temel, sosyal ve uygulamalı bilim alanlarında çalışmalar yapmaya teşvik etmek, çalışmalarını yönlendirmek ve mevcut bilimsel çalışmalarının gelişimine katkı sağlamak amacıyla düzenlenen 2204-B Ortaokul Öğrencileri Araştırma Projeleri Yarışması'na

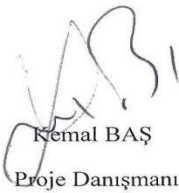
“KIBRIS VE ANADOLU TÜRK MASALLARININ KÜLTÜREL ÖZELLİKLERİ”

"Masalların İzinde: Anadolu ve Kıbrıs Kültürünün Büyülü Yansıması!"

konulu projemizle ilgili anket çalışması yapmak istiyoruz.

Gereğini bilgilerinize arz ederiz.


11.12.2024
Himmet TURGUT


Kemal BAŞ
Proje Danışmanı


Aslı GÜZEL
Proje Sahibi


Furkan GÜMÜŞ
Proje Sahibi

EKLER:

1.Anket (2 Sayfa)

This study is based on voluntary participation. All data used in the research will be used for this project. The research results will be shared with you.

Please mark the boxes according to your own answers to the questions below.

A. Demographic Information

1. What is your gender?

Female ☐ Male ☐

2. What is your education level?

Middle School ☐ High School ☐

3. I read and listened to Turkish Cypriot - Anatolian folktales.

Yes ☐ No ☐

4. Have you participated in projects such as Anatolian School Cyprus Readings?

Yes ☐ No ☐

5. Have you taken a Turkish Cypriot Literature course?

Yes ☐ No ☐

6. Do you read folktales? Do you tell the folktales you read to others?

Yes ☐ No ☐

7. What is your favorite fairytale?

8. Which fairytale character would you like to be?

9. If you were to write a fairytale, what would it be about?

B. Cypriot Turkish and Anatolian Folktales Survey Please mark the option below that best suits you. There are no right or wrong answers to the questions; what matters is your honest feedback.

	0: Strongly Disagree 1: Disagree 2: Neutral 3: Agree 4: Strongly Agree	0	1	2	3	4
1	I have knowledge of Cypriot Turkish folktales.	0	1	2	3	4
2	I know the cultural elements in Cypriot Turkish folktales.	0	1	2	3	4
3	The heroes in Cypriot Turkish folktales – the prominent ones I know.	0	1	2	3	4
4	I have knowledge about the Cypriot dialect used in Cypriot Turkish folktales. I have knowledge.	0	1	2	3	4
5	I have knowledge about Anatolian folktales.	0	1	2	3	4
6	I know the cultural elements in Anatolian folktales	0	1	2	3	4
7	I know the heroes in Anatolian folktales – the prominent ones. I know	0	1	2	3	4
8	I think that folktales develop one's imagination	0	1	2	3	4
9	I think that Cypriot and Anatolian folktales have important messages for people	0	1	2	3	4
10	I believe there are similarities in the folktales of Cyprus and Anatolia. I believe it.	0	1	2	3	4

Appendix 3. Guidance Service Survey Review Evaluation Request Letter.

HALA SULTAN İLAHIYAT KOLEJİ MÜDÜRLÜĞÜNE

LEFKOŞA / KKTC

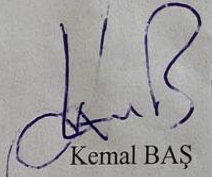
TÜBİTAK Bilim İnsanı Destek Programları Başkanlığı (BİDEB) tarafından öğrenimine devam etmekte olan öğrencileri temel, sosyal ve uygulamalı bilim alanlarında çalışmalar yapmaya teşvik etmek, çalışmalarını yönlendirmek ve mevcut bilimsel çalışmalarının gelişimine katkı sağlamak amacıyla düzenlenen 2204-B Ortaokul Öğrencileri

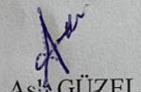
Araştırma Projeleri:

KIBRIS VE ANADOLU TÜRK MASALLARININ KÜLTÜREL ÖZELLİKLERİ

"Masalların İzinde: Anadolu ve Kıbrıs Kültürünün Büyülü Yansıması" konulu projemizle ilgili anket çalışmamızın uygulamasının rehber öğretmenler tarafından inceleme ve değerlendirilmesi yapılarak sonuçlarının bildirilmesi hususunda;

Gereğini bilgilerinize arz ederiz.


Kemal BAŞ
Proje Danışmanı


Aslı GÜZEL
Proje Sahibi


Furkan GÜMÜŞ
Proje Sahibi

11.12.2024

Himmet TURGUT
Okul Müdürü (a)


Appendix 4. Guidance Service Survey Review Evaluation Response

KUZEY KIBRIS TÜRK CUMHURİYETİ
MİLLİ EĞİTİM BAKANLIĞI
HALA SULTAN İLAHİYAT KOLEJİ REHBERLİK SERVİSİ

Sayı: HİK.0.00-211/13-24/E.3457

Konu: TÜBİTAK Yarışmalarına katılacak projemiz

İlgi: 11 Aralık 2024 tarihli yazınız.

Hala Sultan ilahiyat Koleji tarafından gerçekleştirilmesi hedeflenen proje hakkında Okul Rehberlik Komisyonumuzca incelenip değerlendirmesi tamamlanmıştır. Yapılan inceleme ve değerlendirmeler sonucunda görüşümüz aşağıdaki gibidir.

1.TUBİTAK 2204-B Ortaokul Öğrencileri Araştırma Projesi Yarışması'na

KIBRIS VE ANADOLU TÜRK MASALLARININ KÜLTÜREL ÖZELLİKLERİ

"Masalların İzinde: Anadolu ve Kıbrıs Kültürünün Büyülü Yansıması"

konu başlığı ile Hala Sultan İlahiyat Koleji öğrencileri tarafından öğretmenlerinin liderliğinde gerçekleştirileceği anlaşılmış ve tarafımızca uygun bulunmuştur.

2. Gönüllülük esaslarına uygun olarak yapılması planlanan, bilimsel araştırma yöntemlerine ve etik ilkelere uyulacağı yönünde katılımcılara beyan edilen ve araştırmanın muhataplarının açık isim ve iletişim bilgilerinin yer aldığı onam formu tarafımızca uygun bulunmuştur.

3.Araştırma konu başlığı gerek Kuzey Kıbrıs Türk Cumhuriyeti gerekse bütün dünya ülkeleri tarafından önemsenen çağımız sorunlarına ülke geleceğimiz olan ortaokullularımız olarak dikkat çekmeleri yönünden takdir gerektirmektedir. Bu bağlamda seçilen konunun özde okul öğrencilerimize KIBRIS VE ANADOLU TÜRK MASALLARININ KÜLTÜREL ÖZELLİKLERİ "konusunda farkındalık katmanın yanı sıra okullarımızda bilimsel çağdaş yaklaşımlara uygun eğitim-öğretim uygulamaları olarak değerlendirilmiştir.

4. Proje sorumlusu Kemal BAŞ öncülüğünde yürütüleceği anlaşılan bu projede "Masalların İzinde: Anadolu ve Kıbrıs Kültürünün Büyülü Yansıması" sloganın kullanılması öğrenciler üzerinde olumlu tutum ve davranış geliştirmelerini teşvik edici bir slogan olarak değerlendirilmiştir.

5.Okul Öğrencilerine yöneltilmesi hedeflenen anket sorularının on (10) tane olduğu tarafımızca görülmüş ve ortaokul ve lise öğrencilerine yöneltilmesinde herhangi bir sakınca bulunmamıştır.

6.Öğrencilere yöneltilmesi hedeflene ankette ilk dokuz (9) sorunun demografik bilgileri içerdiği tarafımızca görülmüş ve uygun bulunmuştur.

7.Anket içerisinde yer alan soru örneklerinde erişilebilirlik, ulaşılabilirlik, görüş ve değerlerin yanı sıra kültürel içerikleri de barındırdığı tarafımızca görülmüştür. Araştırma konu başlığı oldukça uyumlu tarafımızca görülmüş ve uygun bulunmuştur.

8.Ülkemiz ve bilim dünyasına katkısı olacağına inanmakta olduğumuz araştırma sonuç raporlamalarının Hala Sultan İlahiyat Koleji okul müdürlüğü tarafından oluşturulmuş Rehber Öğretmen Komisyonuna ulaştırmaları kurallarımız gereğidir.

Yukarıda belirtilenlere istinaden proje sahipleri olarak; Hala Sultan İlahiyat Koleji öğrencilerinden Aşlı GÜZEL, Furkan GÜMÜŞ' ün kendi okullarında uygulamayı hedefledikleri KIBRIS VE ANADOLU TÜRK MASALLARININ KÜLTÜREL ÖZELLİKLERİ adlı projeyi proje danışmanları olarak belirtilen Kemal BAŞ önderliğinde yürütülmesi Hala Sultan İlahiyat Koleji Rehber Öğretmen Komisyonunca uygun bulunmuştur.

Bilgi ve gereğini saygılarımla rica ederim.

Yasemin EROĞLU
Rehber Öğretmen

Fatih YILMAZ
Rehber Öğretmen

Adviye ASIL
Rehber Öğretmen



Himmet TURGUT
Okul Müdürü

Appendix 5. School Board Permission

HALA SULTAN İLAHİYAT KOLEJİ MÜDÜRLÜĞÜNE

LEFKOŞA / KKTC

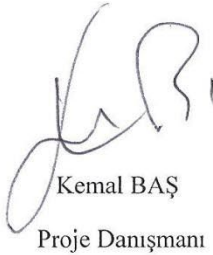
TÜBİTAK Bilim İnsanı Destek Programları Başkanlığı (BİDEB) tarafından lise öğrenimine devam etmekte olan öğrencileri temel, sosyal ve uygulamalı bilim alanlarında çalışmalar yapmaya teşvik etmek, çalışmalarını yönlendirmek ve mevcut bilimsel çalışmalarının gelişimine katkı sağlamak amacıyla düzenlenen 2204-B Ortaokul Öğrencileri Araştırma Projeleri Yarışması'na "KIBRIS VE ANADOLU TÜRK MASALLARININ KÜLTÜREL ÖZELLİKLERİ"

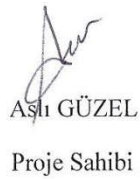
"Masalların İzinde: Anadolu ve Kıbrıs Kültürünün Büyülü Yansıması!"

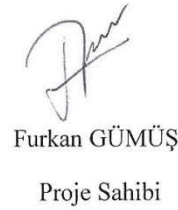
konulu projemizle ilgili **Pano Hazırlama** çalışması yapmak istiyoruz.

Gereğini bilgilerinize arz ederiz.


11.12.2024
Himmet TURGUT


Kemal BAŞ
Proje Danışmanı


Aşlı GÜZEL
Proje Sahibi


Furkan GÜMÜŞ
Proje Sahibi

Appendix 6. School Board Picture



Appendix 7. School Ankara Social Sciences University Vice Rector Prof. Dr.Interview Permission Letter with Zeki AKÇAM

HALA SULTAN İLAHİYAT KOLEJİ MÜDÜRLÜĞÜNE

LEFKOŞA / KKTC

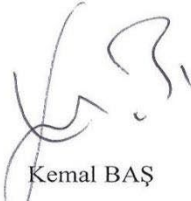
TÜBİTAK Bilim İnsanı Destek Programları Başkanlığı (BİDEB) tarafından lise öğrenimine devam etmekte olan öğrencileri temel, sosyal ve uygulamalı bilim alanlarında çalışmalar yapmaya teşvik etmek, çalışmalarını yönlendirmek ve mevcut bilimsel çalışmalarının gelişimine katkı sağlamak amacıyla düzenlenen 2204-A Lise Öğrencileri Araştırma Projeleri Yarışması'na "KIBRIS VE ANADOLU TÜRK MASALLARININ KÜLTÜREL ÖZELLİKLERİ"

"Masalların İzinde: Anadolu ve Kıbrıs Kültürünün Büyülü Yansıması!"

konulu projemizle ilgili **Söyleşi çalışması** yapmak istiyoruz.

Gereğini bilgilerinize arz ederiz.




Kemal BAŞ
Proje Danışmanı


Aşlı GÜZEL
Proje Sahibi


Furkan GÜMÜŞ
Proje Sahibi

Appendix 8. School Ankara Social Sciences University Vice Rector Prof. Dr.Official Interview with Zeki AKÇAM



Appendix 9. School Fairytale Reading Activity

HALA SULTAN İLAHİYAT KOLEJİ MÜDÜRLÜĞÜNE

LEFKOŞA / KKTC

TÜBİTAK Bilim İnsanı Destek Programları Başkanlığı (BİDEB) tarafından lise öğrenimine devam etmekte olan öğrencileri temel, sosyal ve uygulamalı bilim alanlarında çalışmalar yapmaya teşvik etmek, çalışmalarını yönlendirmek ve mevcut bilimsel çalışmalarının gelişimine katkı sağlamak amacıyla düzenlenen 2204-B Ortaokul Öğrencileri Araştırma Projeleri Yarışması'na

"KIBRIS VE ANADOLU TÜRK MASALLARININ KÜLTÜREL ÖZELLİKLERİ"

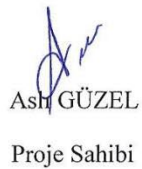
"Masalların İzinde: Anadolu ve Kıbrıs Kültürünün Büyülü Yansıması!"

konulu projemizle ilgili Masal Okuma çalışması yapmak istiyoruz.

Gereğini bilgilerinize arz ederiz.


11.12.2024
K.K.T.C.
Himmet TURGUT
HALA SULTAN İLAHİYAT KOLEJİ MÜDÜRLÜĞÜ
LEFKOŞA


Kemal BAŞ
Proje Danışmanı

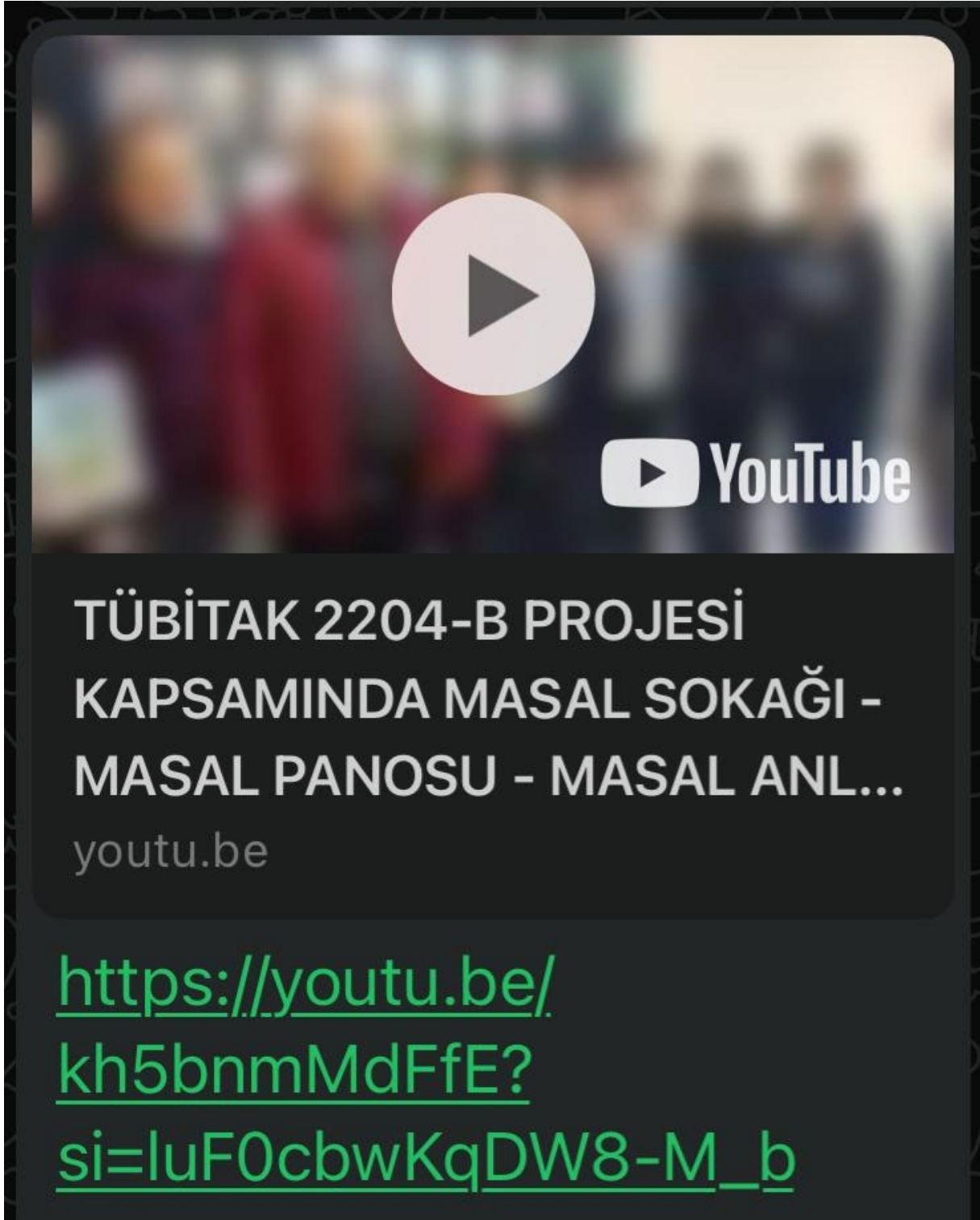

Ash GÜZEL
Proje Sahibi


Furkan GÜMÜŞ
Proje Sahibi

Appendix 10. Picture of the School Fairytale



Appendix 11. School Fairytale Reading Activity YouTube



Attachment 12. Furkan GÜMÜŞ Parent

VELİ İZİN BELGESİ (TÜBİTAK 2204-B)

HALA SULTAN İLAHİYAT KOLEJİ MÜDÜRLÜĞÜNE
LEFKOŞA

Velisi bulunduğum okulunuz 7/E Sınıfı 292 numaralı öğrencisi Furkan GÜMÜŞ'ün, TÜBİTAK Bilim İnsanı Destek Programları Başkanlığı (BİDEB) tarafından lise öğrenimine devam etmekte olan öğrencileri temel, sosyal ve uygulamalı bilim alanlarında çalışmalar yapmaya teşvik etmek, çalışmalarını yönlendirmek ve mevcut bilimsel çalışmalarının gelişimine katkı sağlamak amacıyla düzenlenen 2204-B Ortaokul Öğrencileri Araştırma Projeleri Yarışması'na

“KIBRIS VE ANADOLU TÜRK MASALLARININ KÜLTÜREL ÖZELLİKLERİ”

"Masalların İzinde: Anadolu ve Kıbrıs Kültürünün Büyülü Yansıması!"

konulu Araştırma Projeleri Yarışması için yapılacak her türlü çalışmaya (organizasyon, etkinlik, sunum, yurtdışı gezi vb.) katılmasına izin veriyorum.

03/12/2024

VELİ
Mehmet GÜMÜŞ

Adres: Sakarya Mahallesi Gökova Sokak

Sosyal Konutlar Daire No:7 GAZİMAĞAUSA

Telefon: 0.548.8600530

Appendix 13. Ash GÜZEL Parent Permission Request Form

VELİ İZİN BELGESİ **(TÜBİTAK 2204-B)**

HALA SULTAN İLAHİYAT KOLEJİ MÜDÜRLÜĞÜNE
LEFKOŞA

Velisi bulunduğum okulunuz 7/E Sınıfı 1809 numaralı öğrencisi Aslı GÜZEL'in, TÜBİTAK Bilim İnsanı Destek Programları Başkanlığı (BİDEB) tarafından lise öğrenimine devam etmekte olan öğrencileri temel, sosyal ve uygulamalı bilim alanlarında çalışmalar yapmaya teşvik etmek, çalışmalarını yönlendirmek ve mevcut bilimsel çalışmalarının gelişimine katkı sağlamak amacıyla düzenlenen 2204-B Ortaokul Öğrencileri Araştırma Projeleri Yarışması'na

“KIBRIS VE ANADOLU TÜRK MASALLARININ KÜLTÜREL ÖZELLİKLERİ”

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Mehmet Güzel


03 /12/2024

VELİ
Esmehan GÜZEL
imza


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CUSTOMER SATISFACTION IN CORPORATE SERVICES: THE CASE OF THE NATIONAL LIBRARY OF KKTC

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ABSTRACT

This study was designed within the framework of the relational survey model, one of the quantitative research methods. The research population consisted of all users receiving services from the National Library of the Turkish Republic of Northern Cyprus (TRNC). Since it was not feasible to reach the entire population, data were collected from a random sample of 300 participants. A structured questionnaire was used as the data collection tool to assess user satisfaction levels, and the data collection process was conducted between January and February 2025. Statistical analyses were performed using SPSS 28, incorporating both descriptive statistics and advanced analyses to identify relationships and differences between variables. The findings revealed that overall user satisfaction with the TRNC National Library was at a moderate-to-high level. Users reported particularly high satisfaction with library services and staff support. While the physical environment was generally evaluated positively, greater variation in user perceptions was noted in this dimension. The lowest satisfaction levels were reported regarding the library's technological infrastructure, highlighting the need for improvement in this area. No significant differences in satisfaction were found based on gender, while age differences were significant only for perceptions of the physical environment. In terms of educational level, significant differences emerged in satisfaction with the physical environment, library resources, staff, and overall satisfaction. Notably, users with postgraduate education reported lower satisfaction levels, suggesting that their expectations were not fully met. Correlation analysis revealed statistically significant and positive relationships between all service dimensions and overall user satisfaction. Staff performance and service quality emerged as the strongest predictors of satisfaction, whereas technological services and resource diversity were identified as areas falling short of user expectations.

Keywords: Corporate Service, Customer Satisfaction, Library

1. INTRODUCTION

1.1. Problem

In line with the demands of the information age, libraries have evolved from being mere repositories and access points for information to functioning as essential knowledge centers that support individuals in effectively accessing, evaluating, and using information. In particular, public libraries play a critical role in ensuring that all users have equal and fair access to information (Bozkurt, 2008; Ceylan, 1997). In this context, how users perceive the services offered by libraries, the quality of their experiences, and the impact of these services on user satisfaction have been frequently examined in the contemporary literature (Nunkoo et al., 2025). The National Library of the Turkish Republic of Northern Cyprus (TRNC) is the country's only national information center, located in Nicosia and accessible to the public nationwide. The library fulfills a dual mission: preserving the national memory while also carrying out the functions of both a public and a school library (Department of Culture, 2025). However, the effects of these comprehensive services on users from different demographic backgrounds have not yet been sufficiently analyzed, particularly in terms of satisfaction levels, frequency of use, and ease of access. Although user-centered service delivery is central to the modern librarianship approach, the limited research on user satisfaction specific to the TRNC National Library underscores the need for more comprehensive studies in this area.

The impact of customer satisfaction on institutional success, competitive advantage, and sustainable service delivery has been widely supported by empirical research across various sectors (Pekmezci, Demireli, & Batman, 2015; Uygur & Doğan, 2013; Cankül, Kaya, & Kızıldaş, 2024). This concept, which extends from internal customer satisfaction to external customer satisfaction within institutional structures, demonstrates that service quality must be assessed holistically. Especially in information centers that prioritize user-oriented service delivery, the level of satisfaction is shaped not only by the existence of services but also by how these services are perceived and experienced by users. In the evaluation of library services, user satisfaction covers a wide range of factors—from environmental aspects such as the physical layout, ergonomic design, quietness, lighting, and comfort; to human factors such as the communication skills, helpfulness, and expertise of the staff; and to digital infrastructure elements such as the adequacy and modernity of technological equipment and the speed and reliability of access to information resources. For instance, Sinurat, Ramli, and Purnomo (2024) found that e-service quality and digital trust have a direct effect on e-customer satisfaction. Similarly, Minhaj and Khan (2025) demonstrated that customer satisfaction in digital banking is closely tied to the quality of technological infrastructure and responsiveness to customer needs. The core problem addressed in this study is that the satisfaction levels of users of the TRNC National Library have not yet been comprehensively examined. Addressing this gap will contribute to both assessing the institutional capacity of the library and informing the restructuring of services in line with user needs and expectations. Therefore, this research aims to identify the factors that influence user satisfaction, analyze the relationship of these factors with demographic variables, and provide data-driven recommendations to help public information centers deliver more effective and efficient services.

1.2. Purpose of the Research

at the TRNC National Library ; to analyze the effects of factors such as service quality, physical environment, staff interest and resource adequacy on user satisfaction. In addition, the relationship between users' demographic characteristics and satisfaction levels is evaluated, and data is aimed to be provided for service improvements (Bozkurt, 2008).

1.2.1 Hypotheses

H1: There is no significant difference in the satisfaction levels of users with the TRNC National Library services according to their gender.

H2: There is a significant difference in the satisfaction levels of users with the TRNC National Library services according to their gender.

H3: There is no statistically significant difference between the satisfaction levels of users with the TRNC National Library services according to their age groups.

H4: There is a statistically significant difference between the satisfaction levels of users with the TRNC National Library services according to their age groups.

H5: There is no significant difference in the satisfaction levels of users with the TRNC National Library services according to their education levels.

H6: There is a significant difference in the satisfaction levels of users with the TRNC National Library services according to their education levels.

H7: There is no significant relationship between the service dimensions of the TRNC National Library and general user satisfaction.

H8: There is a significant relationship between the service dimensions of the TRNC National Library and overall user satisfaction.

1.3. Importance of the Research

The effectiveness of library services is directly related to the extent to which the services provided meet user expectations. Determining the satisfaction level of service providers both enables the evaluation of current practices and directs future service planning (Yıldız, 2013). This research is important in terms of providing data on user satisfaction of the TRNC National Library. In addition, it is expected that this institution, which is the only national library open to the public, will contribute to the increase of its functionality with a user-centered approach and to form the basis for strategic plans for policy makers.

2. THEORETICAL FRAMEWORK

2.1. Customer Concept

Customers are individuals who use the goods or services produced by institutions and organizations. For any institution, its customers are among its most valuable assets, as the existence and continuity of businesses depend on them. For this reason, businesses develop their marketing strategies with a strong customer focus and allocate a significant portion of their resources to acquiring and retaining customers (Çevik, 2015). In today's rapidly evolving technological environment, the scope of the customer concept has expanded significantly, much like many other concepts. For example, students in schools, patients in hospitals, and passengers using public transportation are now viewed as customers, forming the fundamental base of these institutions (Biçer & Yurtsal, 2021).

The customer base plays a critical role in ensuring the sustainable success of an institution. When the customer base is categorized into different segments, it becomes clear that each group contributes to this success at varying levels. In this context, customers can be classified into four basic groups: loyal customers, customers who have switched from competitors, new customers, and customers who have left the institution. Loyal customers, who have strong ties and are familiar with institutional processes, do not create additional workload for the organization. They represent a group with a high probability of sustaining success. Therefore, prioritizing this group is essential for maintaining loyalty and making efficient use of institutional resources (Çoban, 2005). New customers and those switching from competitors have relatively lower success potential in the short term, as they have not yet developed a strong connection with the organization. They are still in the process of adapting to its processes and forming satisfaction. However, targeted strategies—such as personalized communication and social media marketing—can play an active role in converting these customers into loyal ones over time (Akgün & Ergün, 2017). The definition of customer is not limited to external customers alone; company employees are also regarded as internal customers. Internal customer satisfaction directly impacts the quality of the products and services delivered to external customers, which makes this distinction critically important in customer relationship management (Demir & Kırdar, 2007). In modern marketing approaches, customer focus also requires actively involving customers in the product and service design process. This understanding is implemented through models such as “design by customer,” which emphasizes co-creation and direct customer input (Risdiyono & Koomsap, 2013).

2.2. Customer Satisfaction

Customer satisfaction has long held an important place in marketing and service management literature and is considered one of the basic elements that guide customer behavior. The concept is based on the comparison between the benefit the customer receives from the product or service he/she purchases and his/her expectations from this product or service. According to Bozkurt (2008), satisfaction occurs at the point where the benefit the customer expects from the product or service intersects with the benefit he/she actually receives. Similarly, Çevik (2015) explains this situation as a psychological evaluation process that occurs as a result of the evaluation the customer makes between his/her expectations and actual performance after the purchase. In this context, customer satisfaction is shaped not only by product quality, but also by the service delivery process, employee attitudes and brand perception.

Customer satisfaction is high when the customer experience is positive, and low when the experience falls short of expectations. Yıldız (2013) defines satisfaction as “a comparative feeling resulting from the differences between the actual experience and the expectation.” When the actual experience exceeds expectations, there is high satisfaction, and when it falls short of expectations, there is dissatisfaction. When experience and expectation are equal, a medium level of satisfaction or a neutral situation occurs (Bozkurt, 2008). In this context, it can be said that satisfaction develops within a spectrum and is a comparative judgment rather than an absolute situation.

The importance of customer satisfaction for businesses is not limited to customer retention. Uyar (2019) states that satisfied customers increase the value of "word of mouth marketing" for businesses by sharing their positive experiences with their environment. In this process, customers become voluntary representatives of the brand, increasing the effectiveness of marketing efforts and contributing to the expansion of the company's market share. In fact, Aksoy and Baş (2024) also revealed that customer satisfaction plays a fundamental intermediary role in supporting positive word of mouth communication along with brand trust and loyalty.

The proactive role of business management is of great importance in ensuring customer satisfaction. Bozkurt (2008) emphasizes that businesses must continuously improve both their service processes and products for the continuity of customer satisfaction. In addition, customer experience is not limited to certain services; all service units offered by the business must operate at the same quality. When this integrity is not achieved, customer perception may be negative. In the study conducted by Agag et al. (2024), it is stated that marketing analytics and customer agility applications play an important role in increasing customer satisfaction and managing the change in this satisfaction over time. This situation shows that data-based decision-making processes strengthen customer focus in digitalizing markets.

2.3. TRNC National Library History

The establishment process of the National Library of the Turkish Republic of Northern Cyprus took shape in the early 1950s as a product of civil and institutional efforts to support the cultural and educational development of Turkish Cypriots. The first public library, established in Lefkoşa in 1953 with the private initiative of the Turkish Cypriot Cultural Association in Türkiye and operating under the Turkish Cypriot Federation, constituted the beginning of this process. This first initiative, carried out by two volunteer primary school teachers, began with the arrangement of books obtained from the Sultan Mahmud II Library; it was organized in a room allocated in the Madrasa. During the same period, the financial support and book donations sent by the Government of the Republic of Turkey through the Turkish Cypriot Cultural Association made significant contributions to this institutionalization (Dedeçay, 1991).

After the British Colonial Administration did not support the library, this initiative took on the identity of a school library attached to the evening section of the Atatürk Vocational Secondary School in 1954, and thus began to benefit from the allocation provided by the state. On January 1, 1955, it was officially opened to the public with 1,500 books in a small building on 49. Mecidiye Street in Nicosia. In 1958, it also temporarily acted as an intermediary between the British Council Library in the Greek part of Nicosia and Turkish Cypriot readers (Dedeçay, 1991).

Following the establishment of the Republic of Cyprus in 1960, the Ministry of Education, affiliated to the Turkish Cypriot Communal Assembly, established the Central Library of Education with the contribution of five thousand books sent by the Ministry of National Education of the Republic of Turkey. This library was open to both students and the general public, and included a children's section and a lending service. However, this development caused institutional structures to operate independently and in competition with each other, leading to the fragmentation of resources in public librarianship (Uysal, 2011).

In order to implement a more modern and holistic understanding of public librarianship, a planned transformation process was initiated on November 17, 1958, with the invitation of experts from the Republic of Turkey. As a result of the work carried out by Aziz Berker, Director General of Libraries of the Ministry of National Education of the Republic of Turkey, and expert librarian İsmet Parmaksızoğlu in 1959, it was decided to establish public and children's libraries in regions with a dense Turkish population, especially in Nicosia, and to establish a national library in the capital (Department of Culture, 2025).

During this process, a consensus was reached to merge the Maarif Central Library and the Public Library, which were operating separately; following the approval of the Turkish Cypriot Cultural Association in Istanbul, these two institutions were merged under the name of the National Library with a collection of 13,000 books on 11 October 1963 and began providing services in a two-story building in Lefkoşa Atatürk Square (Dedeçay, 1991). The library, which had to suspend its services for a short time due to the Turkish-Greek conflicts in 1963, continued its activities in the same building until 1975.

The increasing number of users and the expanding collection caused the library to become insufficient in terms of its current physical space; therefore, it was moved to another building on Mahmut Paşa Street in Lefkoşa in 1975. However, this new location also had limitations in terms of service provision since it was not an original library building. In order to eliminate these limitations, it was decided to establish a national library within the Atatürk Cultural Center, which was planned to commemorate the centennial of Atatürk's birth with the support of the

Republic of Turkey, and this new center was opened to the public on July 20, 1984, on the tenth anniversary of the July 20 Peace Operation (Culture Department, 2025).

Although the TRNC National Library successfully carries out its basic library functions on a national scale, it faces various structural restrictions in terms of international cooperation and information sharing. One of the main reasons for this situation is that the Turkish Republic of Northern Cyprus is not recognized by any state other than Turkey. For this reason, the institution, which is isolated in areas such as international publication exchange, professional staff training and benefiting from funds, operates with limited opportunities in terms of information circulation (Uysal, 2011). Today, the National Library continues its services in accordance with the National Library Regulation prepared on the basis of Article 15 of the Law on Establishment, Duties and Working Principles of the Department of Culture dated 1986 and fulfills the duty of preserving the cultural memory of Northern Cyprus by also incorporating the public library function.

3. METHOD

3.1. Research Model

This study is structured within the framework of the relational screening model, which is one of the quantitative research methods. Quantitative research is a methodological approach based on the collection of data numerically and analysis with statistical techniques (Büyüköztürk, 2016). It allows the examination of causal or relational connections between social phenomena through numerical data. This approach uses structured research designs and measurement tools to guarantee the objectivity and measurability of the research (Karasar, 2020).

In this context, the relational screening model used is a screening model aimed at determining the existing relationships between two or more variables. This model provides information about the existence, direction and degree of correlation between variables, but does not aim to establish a causal relationship (Karasar, 2020; Cohen et al., 2018). The researcher compares the variables in the current situation statistically and interprets the levels of relationship between them. For this reason, the model is frequently preferred in social sciences, especially in explaining the connections between psychological, educational and administrative variables (Büyüköztürk et al., 2019). In this study, which was conducted using the relational screening model, the relationships between the determined variables were tested with the help of correlational analysis techniques and conclusions were reached in line with the findings obtained. Structuring the research design in this way allowed the data to be evaluated systematically and objectively.

3.2. Universe and Sample

The universe of this research consists of all users of the service from the Turkish Republic of Northern Cyprus (TRNC) National Library. The numerical data regarding the universe were obtained through the library automation system as a result of interviews with the officials of the Atatürk Cultural Center, Department of Culture, affiliated to the Deputy Prime Ministry, Ministry of Tourism, Culture, Youth and Environment. Considering the size of the universe, since it is not possible to reach the whole universe in terms of both time and resources, a sample was determined in the research and the data collection process was carried out.

The sample used in the study consists of 300 users who actively use the TRNC National Library and participated in data collection in January-February 2025. This sample allowed for meaningful and representative data to be obtained about the user group targeted by the study. In the data collection process, the random sampling method, which is one of the non-probability sampling methods, was used. Random sampling is a type of sampling based on the principle that the researcher randomly selects participants from among the individuals in the universe without using a specific systematic method (Büyüköztürk, 2016; Karasar, 2020). The aim of this method is to keep the probability of different individuals participating in the study at an equal level, assuming that the sample can adequately represent the universe. In this context, both users who accessed the web-based survey link and users who filled out the survey via face-to-face access constituted the sample group. This sampling approach was preferred in terms of ease of application and reaching a wide user profile, and contributed to the general validity and reliability level of the study. In addition, the sample size of 300 people meets the minimum sample size recommended for similar social science research and allows data analyses to produce statistically significant results (Yazıcıoğlu & Erdoğan, 2004).

3.3. Data Collection Tools

In this study, the survey method was used as a data collection tool. The survey form was structured as a five-point Likert-type scale, aiming to measure perceptions of customer satisfaction. Participants were asked to evaluate between “strongly disagree” (1) and “strongly agree” (5). The survey questions were adapted and restructured for the context of this research, taken from Bozkurt’s (2008) study on customer satisfaction. The

prepared survey was applied in accordance with the official permission letter received from the Deputy Prime Ministry, Ministry of Tourism, Culture, Youth and Environment and the approval of the ethics committee. The survey was implemented between January and February 2025. Survey forms were shared online via a web-based system and delivered to library users through face-to-face interviews. Thus, it was possible to reach users of different ages and education levels. Valid data was obtained from a total of 300 users during the data collection process.

The third section of the survey form used in the study includes a total of 46 statements aimed at measuring user satisfaction. Reliability analysis was performed on these items and the internal consistency of the scale was tested with Cronbach's Alpha coefficient. The Cronbach's Alpha value obtained was 0.927, which indicates that the scale is highly reliable. In line with the thresholds accepted in the interpretation of the alpha coefficient ($0.80 \leq \alpha < 1.00$), a result at this level indicates that the reliability of the scale is quite high (Büyükoztürk, 2016; Tavşancıl, 2006).

In addition, the validity of the data collection tool of the research was ensured by the statements created based on similar studies in the literature and reviewed with expert opinions. In order to ensure content validity, the survey items were revised in line with the opinions of academicians who are experts in the field of information-document management and statistics.

3.4. Analysis of Data

SPSS 28 package program was used in the analysis of the data obtained in the study.

Table 1. Normality Analysis

Kolmogorov-Smirnov ^a			Shapiro-Wilk			Skewness	Kurtosis
Statistic	df	Sig.	Statistic	df	Sig.		
0,183	300	0,000	0,862	300	0,000	-1,313	4,123

According to the normality analysis presented in Table 2, the distribution of the data related to the satisfaction assessment scale was examined with the Kolmogorov-Smirnov and Shapiro-Wilk tests. Since the significance values obtained as a result of both tests ($p = 0.000$) were below the 5% significance level, it was statistically determined that the satisfaction data did not show a normal distribution. This situation reveals that the normality assumption required for the use of parametric tests in the analyses was not provided. In addition, the skewness value of the data was determined as -1.313 and the kurtosis value as 4.123. A negative skewness value indicates that the data is skewed to the left; a kurtosis value above 3 indicates that the distribution has a more pointed structure than a normal distribution. These statistical findings indicate that the distribution of the satisfaction scale data is not symmetrical and has a narrow structure in terms of density. As a result, the findings regarding the normality analysis show that the satisfaction data do not meet the normal distribution assumption and therefore it would be appropriate to use non-parametric testing techniques in the analysis process.

Tablo 2. KMO ve Bartlett's Testi Sonuçları

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,814
Bartlett's Test of Sphericity	Approx. Chi-Square	959,597
	df	10
	Sig.	0,000

The Kaiser-Meyer-Olkin (KMO) and Bartlett's Sphericity Test results in Table 3 evaluate the suitability of the sample for factor analysis. The KMO value was calculated as 0.814. This value is considered to be at a "good" level according to the classification determined by Kaiser (1974) and shows that the sample size is suitable for factor analysis. When the KMO value is between 0.80 and 0.89, it can be interpreted that the data is quite suitable for factor analysis.

Bartlett's Test of Sphericity, the chi-square value was found to be 959.597, the degree of freedom was 10 and the significance level was $p = 0.000$. The significance level being less than 0.05 indicates that there is a sufficient level of correlation between the variables and that factor analysis can be performed.

When these two tests are evaluated together, it is understood that the data set used in the analysis is suitable for factor analysis in terms of structural validity. As a result, the high KMO value and the significant Bartlett test confirm that the structural properties of the data are sufficient for analysis. This indicates that the factor structures to be obtained from the analysis will be reliable and interpretable.

the Cronbach's Alpha coefficient of the scale consisting of 46 items was calculated as 0.939.

Table 3. Reliability Analysis

Cronbach's Alpha	Article
0.939	46

Cronbach's Alpha value is a reliability coefficient used to evaluate the internal consistency of the scale and has a value ranging from 0 to 1. According to the generally accepted classification, a value of $\alpha \geq 0.90$ is interpreted as "perfect" reliability (Tavşancıl, 2014). In this context, it can be said that the satisfaction scale used in the study shows a high level of internal consistency and provides strong integrity between the items. This value of 0.939 shows that the scale can reliably measure user satisfaction and that the data obtained are based on solid foundations in terms of analysis. A reliability coefficient at this level provides an important advantage in terms of the validity of the analyses conducted within the scope of the research.

4. FINDINGS

Table 4. Distribution of Demographic Characteristics of Participants

		n	%
Gender	Woman	195	65.0
	Male	105	35.0
Age	18-24 years old	95	31.7
	25-34 years old	41	13.7
	35-44 years old	53	17.7
	45-54 years old	56	18.7
	55-64 years old	28	9.3
	Ages 65 and over	27	9.0
Education	High school	159	53.0
	University	112	37.3
	Masters/Doctorate	29	9.7
Frequency of entering the library	Every day	17	5.7
	Once a Week	49	16.3
	2-3 times a week	43	14.3
	Once a month	70	23.3
	Twice a month	86	28.7
	Several times a year	9	3.0
	During exam weeks	8	2.7
	This is my first time here	13	4.3
	I can't come	5	1.7
	Doing research	34	11.3
Reason for going to the library	Borrowing a book	179	59.7
	To study	62	20.7
	Reading newspapers and magazines	9	3.0
	Other	16	5.3
	Total	300	100.0

According to the table, the demographic distribution of the 300-person sample participating in the study varies. In the gender distribution, female participants constitute the majority with 65%, while male participants constitute 35%. This situation shows that the TRNC National Library is used more intensively by female users. The largest portion of the participants consists of individuals between the ages of 18–24 (31.7%). This age group is followed by the 45–54 age group with 18.7%, and the 35–44 age group with 17.7%. The rate of the 25–34 age group is determined as 13.7%, the 55–64 age group is 9.3%, and the 65 and over age group is 9%. In the distribution by level of education, high school graduates constitute the majority with 53%. While the rate of university graduates is 37.3%, master's and doctorate graduates have participated at a rate of 9.7%. This situation shows that the library is actively used especially by individuals at the secondary education level. When the frequency of going to the library is examined, the majority of the participants (23%) stated that they use the library once a month. The rate of those who come once a week is 16.3%, and the rate of those who come twice a week is 14.3%. In addition, there are less frequent users such as those who come only during exam weeks (10%) and those who come a few times a year (9.7%). This distribution indicates a significant variety in terms of the frequency of library use among the users. Among the reasons for the participants to go to the library, the highest rate is to borrow books with 59.7%. 34.3% of the participants stated that they come to the library for research purposes. Other reasons include studying (12.3%), reading newspapers and magazines (10.3%). These findings show that the TRNC National Library stands out primarily with its loan service, and also has an academic and information-based use function.

Table 6 shows area data , TRNC National Library of its users to services oriented satisfaction levels descriptive statistics through emerge is putting .

Table 5. Participants ' Satisfaction Levels with TRNC National Library Services

	Min.	Max .	Avg.	Ps .
Physical Environment	2.00	5.00	4,1073	0.53606
Technological Opportunities	1.00	5.00	3,1142	0.47972
Library Resources	1.29	5.00	3,7124	0.49940
Library Services	1.43	5.00	3.9371	0.41906
Library Staff	1.50	5.00	3,8228	0.46643
Customer satisfaction (General)	2.12	4.93	3,7400	0.38263

According to the data, the service with the highest level of satisfaction of the users is library services, with an average score of 3.9371. This is followed by satisfaction with the library staff (Avg. = 3.8228) and physical environment (Avg. = 4.1073). Although the average of the physical environment dimension is particularly high, the standard deviation value (0.53606) is higher compared to the other dimensions; this shows that there is relatively more disagreement among the participants on this issue.

On the other hand, the area where users reported the lowest satisfaction was technological facilities (Average = 3.1142). This low average and standard deviation of 0.47972 indicate that technological facilities do not sufficiently meet user expectations and that there is a need for improvement in service quality in this area. Satisfaction towards library resources is at a medium level with an average value of 3.7124, and it is thought that resource diversity or accessibility is evaluated differently by different user groups.

The general customer satisfaction average is 3.7400, indicating that the services are generally viewed positively, but there are areas for improvement in some dimensions (especially technological opportunities). The fact that the average values are above 3.5 indicates that the general satisfaction of the users towards the library is at a medium-high level. It is recommended that the library management make strategic improvements, especially focusing on relatively low satisfaction levels such as technological infrastructure and resource diversity.

Table 6. Mann-Whitney U Test Results of Satisfaction with TRNC National Library Services by Gender

	Gender	n	Average Rank	Total Rank	Mann - Whitney U	Z	p.
Physical Environment	Woman	195	144.86	28247.00	9137,000	-1,542	0.123
	Male	105	160.98	16903.00			
Technological Opportunities	Woman	195	149.08	29070.00	9960,000	-0.390	0.697

	Male	105	153.14	16080.00			
	Woman	195	150.18	29286.00			
Library Resources	Male	105	151.09	15864.00	10176,000	-0.087	0.930
	Woman	195	152.35	29707.50			
Library Services	Male	105	147.07	15442.50	9877,500	-0.505	0.614
	Woman	195	152.60	29756.50			
Library Staff	Male	105	146.60	15393.50	9828,500	-0.581	0.561
	Woman	195	151.32	29507.00			
Customer satisfaction (General)	Male	105	148.98	15643.00	10078,000	-0.223	0.824
	Woman	195	151.32	29507.00			

-Whitney U test results in the table, there is no significant difference in the sub-dimensions of satisfaction with the TRNC National Library services depending on the gender variable. The average ranks of male and female participants are quite close to each other in terms of all dimensions, and all p values are above the 0.05 significance level. For example, while the average rank of females is 144.86 in the physical environment dimension, the average rank of males is 160.98, and this difference is not statistically significant ($p = 0.123$). Similarly, no significant difference was observed in the dimensions of technological facilities ($p = 0.697$), library resources ($p = 0.930$), library services ($p = 0.614$), library personnel ($p = 0.561$), and general customer satisfaction ($p = 0.824$). These results reveal that user satisfaction does not change significantly according to gender. In other words, it can be said that the services provided by the TRNC National Library are perceived and evaluated similarly by both female and male users. This shows that library services are provided in a gender-balanced and inclusive manner.

Table 7. Kruskal-Wallis H Test Results for Satisfaction with TRNC National Library Services by Age Groups

		n	Average Ranking	Kruskal - Wallis H.	df	p.
	18-24 years old	95	159.00			
	25-34 years old	41	172.61			
Physical Environment	35-44 years old	53	122.61	13,437	5	0.020
	45-54 years old	56	136.77			
	55-64 years old	28	143.25			
	Ages 65 and over	27	177.76			
	18-24 years old	95	144.22			
	25-34 years old	41	163.80			
Technological Opportunities	35-44 years old	53	148.59	10,109	5	0.072
	45-54 years old	56	171.42			
	55-64 years old	28	113.02			
	Ages 65 and over	27	151.61			
	18-24 years old	95	168.69			
	25-34 years old	41	139.38			
Library Resources	35-44 years old	53	146.66	6,584	5	0.253
	45-54 years old	56	142.60			
	55-64 years old	28	138.82			
	Ages 65 and over	27	139.41			
	18-24 years old	95	154.42			
	25-34 years old	41	151.83			
Library Services	35-44 years old	53	130.17	3,896	5	0.564
	45-54 years old	56	155.47			
	55-64 years old	28	151.84			
	Ages 65 and over	27	162.89			

Library Staff	18-24 years old	95	162.14	3,526	5	0.619
	25-34 years old	41	153.26			
	35-44 years old	53	141.03			
	45-54 years old	56	148.80			
	55-64 years old	28	136.34			
	Ages 65 and over	27	142.15			
Customer satisfaction (General)	18-24 years old	95	162.32	5,779	5	0.328
	25-34 years old	41	156.56			
	35-44 years old	53	133.45			
	45-54 years old	56	148.52			
	55-64 years old	28	130.27			
	Ages 65 and over	27	158.28			

According to the Kruskal-Wallis H test results in the table, the differences in various satisfaction dimensions of the TRNC National Library users according to their age groups were statistically evaluated. In the analysis regarding the physical environment variable, a significant difference was observed between different age groups ($H = 13.437$; $sd = 5$; $p = 0.020$). This situation shows that the satisfaction of the users regarding the physical conditions of the library changes depending on their age. After the Kruskal-Wallis H test results revealed a significant difference between the age groups in terms of the physical environment variable, according to the post-hoc analysis (Dunn's test) results, a significant difference was determined between the 25-34 age group and the 35-44 age group. When the average rankings are examined, it is seen that the satisfaction of the 25-34 age group with the physical environment is higher compared to other age groups. On the other hand, the 35-44 age group stands out as the group reporting the lowest satisfaction with the physical environment.

The statistical results obtained in the technological facilities dimension are at the limit of significance but do not show a significant difference ($H = 10.109$; $sd = 5$; $p = 0.072$). According to this finding, there is no statistically significant difference between the satisfaction levels regarding technological facilities according to age groups. Similarly, no significant age-related difference was found in the satisfaction levels regarding library resources ($H = 6.384$; $sd = 5$; $p = 0.253$), library services ($H = 3.896$; $sd = 5$; $p = 0.564$) and library staff ($H = 3.526$; $sd = 5$; $p = 0.619$).

There was no significant difference in the evaluation of general customer satisfaction ($H = 5.779$; $sd = 5$; $p = 0.328$). When the results are evaluated in general, there is a significant difference between age groups only in terms of the physical environment variable. In other satisfaction dimensions, the evaluations of age groups are at similar levels. These findings are particularly noteworthy in terms of showing that the expectations and experiences of user age groups regarding the physical infrastructure of the library differ.

Table 8. Kruskal-Wallis H Test Results for Satisfaction with TRNC National Library Services According to Education Groups

		n	Average Ranking	Kruskal - Wallis H.	df	p.
Physical Environment	High school	159	164.95	14,624	2	0.001
	University	112	142.61			
	Masters/Doctorate	29	101.76			
Technological Opportunities	High school	159	147.89	0.455	2	0.796
	University	112	152.04			
	Masters/Doctorate	29	158.86			
Library Resources	High school	159	166.96	12,952	2	0.002
	University	112	134.13			
	Masters/Doctorate	29	123.45			

Library Services	High school	159	159.00	3,294	2	0.193
	University	112	140.50			
	Masters/Doctorate	29	142.50			
Library Staff	High school	159	163.38	8,218	2	0.016
	University	112	138.52			
	Masters/Doctorate	29	126.14			
Customer satisfaction (General)	High school	159	165.00	9,987	2	0.007
	University	112	136.85			
	Masters/Doctorate	29	123.69			

The Kruskal-Wallis test and subsequent post-hoc analyses conducted in line with the data obtained from the table revealed that satisfaction with the National Library services showed significant differences in some sub-dimensions according to the level of education.

The Kruskal-Wallis test results for the Physical Environment variable revealed a significant difference ($H=14.624$; $p=0.001$). The average rankings were 164.95 for high school graduates, 142.61 for university graduates, and 101.76 for postgraduate (Masters/Doctorate) level graduates. As a result of the post-hoc analysis, it was observed that there was a significant difference between the high school graduates and the postgraduate group. It was understood that high school graduates reported the highest satisfaction with the physical environment.

There was also a significant difference in the Library Resources dimension ($H=12.952$; $p=0.002$). The average rankings were 166.96 in the high school group, 134.13 in university graduates and 123.45 in the postgraduate group. According to post-hoc analysis, there were significant differences between high school and university and especially postgraduate users. This result shows that satisfaction with resources decreases as the level of education increases.

A significant difference was observed in the Library Staff dimension ($H=8.218$; $p=0.016$). The mean ranks were 163.38 for high school level, 136.54 for university graduates and 126.14 for postgraduate participants. In post-hoc analysis, a significant difference was found between high school and postgraduate users. This shows that expectations in terms of staff support differ with education level.

There was also a significant difference in terms of Overall Customer Satisfaction ($H=9.987$; $p=0.007$). The mean rankings were 165.00 in the high school group, 136.85 in the university group and 123.69 in the postgraduate group. Post-hoc analysis showed a significant difference between the high school and postgraduate groups.

No statistically significant difference was found in the dimensions of Technological Facilities ($H=0.455$; $p=0.796$) and Library Services ($H=1.426$; $p=0.490$).

Table 9. Pearson Correlation Results Between TRNC National Library Service Dimensions and Customer Satisfaction

		Physical Environment	Technological Opportunities	Library Resources	Library Services	Library Staff	Customer satisfaction (General)
Physical Environment	r	1,000	0.070	,309 **	,411 **	,387 **	,629 **
	p.		0.228	0,000	0,000	0,000	0,000
Technological Opportunities	r		1,000	,309 **	,360 **	,336 **	,536 **
	p.			0,000	0,000	0,000	0,000
Library Resources	r			1,000	,550 **	,584 **	,699 **
	p.				0,000	0,000	0,000
Library Services	r				1,000	,835 **	,798 **

	p.	0,000	0,000
Library Staff	r	1,000	,793 **
	p.		0,000
Customer satisfaction (General)	r		1,000
	p.		

The correlation analysis results in the table above reveal the relationships between the TRNC National Library service dimensions and general customer satisfaction. According to Pearson correlation coefficients (r), positive and statistically significant relationships were found between all dimensions and general customer satisfaction ($p < 0.01$).

The relationship between physical environment and customer satisfaction is at $r = 0.629$ level and this relationship is significant ($p = 0.000$). This result shows that improving physical environment conditions has an effect on increasing general satisfaction. The relationship between technological opportunities and general customer satisfaction is also positive and significant ($r = 0.336$; $p = 0.000$); however, the correlation level is lower compared to other dimensions. This shows that the effect of technological opportunities on general satisfaction is limited but present.

The relationship between the library resources dimension and customer satisfaction is stronger ($r = 0.699$; $p = 0.000$). This finding underlines the importance that users attach to the scope, timeliness and accessibility of library collections. A highly significant relationship was found between the library services dimension and customer satisfaction at the level of $r = 0.798$ ($p = 0.000$). This directly shows that the quality of the service provided plays a critical role in shaping satisfaction. The library personnel dimension is the factor that shows the highest level of relationship with customer satisfaction ($r = 0.793$; $p = 0.000$). This finding shows that the qualities of the personnel such as guidance in accessing information, smiling face and communication skills significantly affect user satisfaction.

CONCLUSION

As a result of the analysis, it was determined that user satisfaction with the TRNC National Library services was generally at a medium-high level. Users reported high levels of satisfaction, especially with library services and staff support. Although the physical environment of the library was generally evaluated positively, relatively more differences were observed between user opinions in this dimension. On the other hand, it was observed that satisfaction with technological facilities was lower compared to other dimensions, and a finding was obtained that this area needed to be developed.

In the analyses conducted in terms of gender variable, no significant difference in satisfaction was found between male and female users. This situation shows that the services are provided in a balanced manner in terms of gender. In the analyses conducted according to age groups, a significant difference was found only in the physical environment dimension. This difference revealed that the perceptions of certain age groups regarding physical conditions differed. No significant difference was observed in other satisfaction dimensions depending on age.

In comparisons made in terms of education level, significant differences were found in the dimensions of physical environment, library resources, library staff and general customer satisfaction. These differences show that satisfaction with some services decreases as the level of education increases. It is understood that especially the expectations of postgraduate users are higher and the current services may be inadequate to meet these expectations.

Finally, correlation analysis findings revealed that there are positive and significant relationships between all sub-dimensions of library services and general satisfaction. The strongest relationship was observed between library staff and service quality and general satisfaction. This shows that the service and personnel elements that are directly contacted are decisive in the satisfaction of users. In general, it was concluded that the services provided by the library were evaluated positively by the users, but there were areas open to development, especially in terms of technological possibilities and resource diversity.

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DEVELOPMENT OF SOME OF THE SCIENCE CONCEPTS AND VOCABULARIES TO PRESCHOOLERS USING SCIENCE MAGIC ACTIVITIES

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ABSTRACT

This research aimed to develop selected science concepts and vocabulary among preschool children through the use of science magic activities. To achieve this purpose, the researcher began by reviewing the educational literature and previous studies related to science concepts, science vocabulary, science magic activities, and their interrelationships. The study was guided by six research questions and six hypotheses, which were tested at levels of significance of $p \leq 0.01$ and $\alpha \leq 0.05$. A one-group pretest–posttest experimental design was employed. The sample consisted of 23 preschool children randomly selected from Smart Baby Kindergarten in the Kafer El Zayat district. The experimental group was taught targeted science concepts and vocabulary using a program based on science magic activities. Data were collected using three validated instruments: a test of science concepts, a test of science vocabulary, and note cards for science concepts. The findings revealed that science magic activities had a positive impact on developing certain scientific concepts and vocabulary among preschool children. Overall, the results suggest that integrating science magic activities into early childhood education can effectively support young children's understanding and acquisition of basic science concepts and related vocabulary.

Keywords: Science Concepts, Vocabulary, Preschoolers, Science Magic Activities

INTRODUCTION

Teaching through “magic” is an innovative method for early childhood educators, as it provides engaging ideas across various subjects designed to capture children's attention and help them grasp fundamental concepts through magical activities. Research shows that most children aged four to six and even about half of nine-year-olds are naturally drawn to magical practices and often engage in forms of magical thinking. This may include magical pretend play, participation in stories about magical folk characters, and imagining interactions with magical powers (Evgenii Vasilievich, 2010, p. 15). The term “magic” is often used to describe thinking that does not conform to conventional logic. For many preschool educators, particularly those informed by a Piagetian perspective, the development of magical thinking as a form of illogical reasoning is seen as a common and natural feature of early childhood (Rosengran, Miller, Gutierrez, & Schein, in press; as cited in Marjorie Taylor, 2013, p. 43).

Hands-on activities are widely used in early childhood education based on the belief that such practical experiences naturally foster interaction and provide added educational value by promoting thinking skills. French (2004) explains that scientific activities in preschool classrooms often emphasize collecting observable phenomena and using language that supports both intellectual and linguistic development. Such activities give children opportunities to describe and explain scientific processes and to participate in scientific investigations, which enhances their understanding of the nature of science (Metz, 2004). Many teachers believe that hands-on science learning is highly effective, provided that experiments are well-planned and purposeful (Caulton, 1998, p. 20). Worth and Grollman (2003) argue that these activities should go beyond merely delivering information about scientific phenomena; instead, they should provide opportunities for children to expand their thinking and construct new understandings through direct experience.

Children also learn advanced scientific concepts through curiosity, exploration, and learning from trial and error (Naellace, Chairman, Provost, & Rice, 1988). In this context, Lehr (2005) emphasizes that while children are naturally curious, they require guidance to make sense of their observations and to connect new information with what they already know. Recent developments in science education highlight the importance of supporting children's sequential conceptual development in science, alongside building scientific thinking skills necessary to understand foundational concepts such as patterns, order and organization, evidence, models and explanations, change and stability, measurement, and the relationship between form and function (U.S. Department of Education, 2005). Brenneman, Stevenson-Boyd, and Frede (2009) stress that thinking processes developed through early explorations of science help children build a solid foundation for deeper understanding as they progress in their learning.

However, when children learn science through experiments, scientific vocabulary can often present an obstacle. To help children overcome this barrier, teachers must intentionally support children's understanding of science vocabulary and encourage them to connect new concepts with relevant terminology (Kopp, 2011, p. 9). There is substantial evidence indicating that direct teacher input and guidance can enhance preschool children's skills and comprehension. For example, Dickinson, McCabe, Anastopoulos, Peisner-Feinberg, and Poe (2003) found that young children's oral language skills develop primarily through meaningful conversations. Scarborough and Dobrich (1994) further demonstrated that children who engage in rich conversational experiences with adults during their preschool years achieve better academic outcomes later on.

The quality of conversations between adults and children, where adults respond thoughtfully to children's comments and questions, is vital for supporting children's expressive language development and overall communication skills (French, 2004). Teachers' use of language during interactions plays a crucial role in structuring children's inquiry and shaping their understanding of scientific exploration (French, 2004). By encouraging children to discuss their ideas, think critically, and make observations as part of play and guided activities, teachers help them grow not only in language use but also in communication skills and self-expression (Worth, Moriarty, & Winokur, 2004). Teachers who ask open-ended questions create opportunities for children to participate in meaningful conversations, enabling them to use language in authentic contexts (Bond & Wasik, 2009). While preschool children may not easily learn through formal lectures, the quality of language used by adults around them remains a vital element in their language acquisition and cognitive development (French, 2004).

Statement of the Problem

This research investigated the use of scientific magic activities in developing some scientific concepts and vocabulary among pre-school children. Some studies in recent years have come to view magic performance, especially the use of magic tricks in the magical science program, as not only a form of entertainment, but also a constructive activity. As a tool for teaching science (Hsu, Wang, & Hsu, 2012; Lin et al., 2014) and distinct from traditional magic tricks, scientific magic activities are designed based on scientific principles and knowledge in addition to arousing children's interest as the activities help children develop knowledge and skills. Related scientific studies through observation and processing that occur during scientific magical activities. As a result, this research was designed to design a series of learning activities based on magical sciences.

In this context, (Sarah J. Carrier, 2017) points out the importance of developing children's scientific knowledge, as they need to acquire knowledge of the content of science and practice scientific habits of mind, and this is impossible without knowledge of science vocabulary. In addition, teaching children new terms (vocabulary) expands their world by helping them access a new network of ideas related to concepts (Robert J. Marzano, Katie Rogers, Julia A. Simms, 2015, p. 1).

In addition to the lack of research that aims to use scientific magical activities to develop some scientific concepts and vocabulary among pre-school children, as far as the researcher knows.

Based on the previous background, there was a need to research the use of scientific magical activities in developing some scientific concepts and vocabulary among pre-school children.

Statement of the problem can be formulated in the following main question:

- What is the effectiveness of scientific magic activities in developing some scientific concepts and vocabularies for pre-school children?

Literature review

Teaching through "magic" has emerged as a novel and engaging method for educators, particularly in early childhood education. This approach provides teachers with creative strategies that capture young children's attention and help them grasp fundamental concepts by using magical activities as an instructional tool. Many children between the ages of four and six—and even a significant number of nine-year-olds—naturally gravitate toward magical thinking and practices, which may include pretend play involving magical scenarios, imagining interactions with mythical characters, or envisioning themselves with supernatural abilities (Evgenii Vasilievich, 2010, p. 15). Such magical thinking, often characterized as illogical by adults, is seen by many educators, especially those influenced by Piagetian developmental theory, as a typical and valuable feature of young children's cognitive growth (Rosengran, Miller, Gutierrez, & Schein, in press; cited in Marjorie Taylor, 2013, p. 43).

Hands-on activities have long been a staple of early science education, operating on the principle that direct interaction with materials fosters curiosity, exploration, and deeper understanding. French (2004) emphasizes that scientific activities in preschool classrooms support children's intellectual and language development by encouraging observation, description, and explanation of phenomena. These experiences provide young learners with opportunities to participate in basic scientific investigations and to better understand the nature of science (Metz, 2004). Teachers generally believe that hands-on science learning is highly effective when experiments are

well-structured and purposeful (Caulton, 1998, p. 20). Worth and Grollman (2003) highlight that science activities for young children should aim not merely to deliver information but to stimulate thinking, promote questioning, and help children construct new knowledge from their experiences.

Children's natural curiosity drives them to explore the world through experimentation, even when this leads to mistakes or trial-and-error learning (Naellace, Chairman, Provost, & Rice, 1988). According to Lehr (2005), while young children possess innate curiosity, they need guidance to interpret their observations and to relate new knowledge to their existing understanding. Recent research underscores the importance of helping children develop basic scientific thinking skills alongside a foundational understanding of core scientific concepts such as patterns, order and organization, evidence, models and explanations, change, stability and measurement, evolution, balance, and the relationship between form and function (U.S. Department of Education, 2005). Brenneman, Stevenson-Boyd, and Frede (2009) note that early engagement with scientific ideas lays the groundwork for more advanced scientific learning as children grow.

However, as young children begin to explore scientific ideas, the language of science can present a significant obstacle. Teachers play a vital role in supporting children's understanding of scientific vocabulary and guiding them to link new terms to concrete experiences (Kopp, 2011, p. 9). Research demonstrates that teacher input and guidance are critical in enhancing children's comprehension and language development. Dickinson et al. (2003) found that preschool children's oral language skills develop primarily through rich conversations with adults, and Scarborough and Dobrich (1994) demonstrated that children who engage in such interactions achieve stronger academic outcomes later in life. Encouraging dialogue between adults and children—where adults respond thoughtfully to children's questions and comments supports expressive language development, communication skills, and conceptual understanding (French, 2004). Open-ended questions and discussions allow children to use language in meaningful ways, promoting deeper thinking and greater confidence in expressing their ideas (Bond & Wasik, 2009; Worth, Moriarty, & Winokur, 2004).

Magical thinking, as a cognitive process, serves multiple developmental functions. Freud (1916/1976) argued that it enables individuals to fulfill wishes that reality often denies. Freed from everyday restrictions, magical thinking creates a mental space where impossible desires can find expression: in dreams, we can fly, converse with loved ones who have passed away, or relive our youth. Freud, Borel (1934), and others have noted that magical thinking fuels fantasy—a capacity fundamental to creativity in both the arts and sciences. Magical thinking also helps people understand the world by projecting human thoughts and emotions onto objects, animals, or natural phenomena, a process psychologists refer to as animism and anthropomorphism (Bullock, 1985; Lévy-Brühl, 1926/1984; Piaget, 1929/1971; Subbotsky, 2000). Everyday language is rich with such constructions for example, “the sun rises” or “the rain is coming” and even scientific language uses animistic metaphors, like “gravitational attraction.”

Magical thinking also has a meaning-making function. For those who believe in magic, religion, or an afterlife, these beliefs give life a broader perspective and help people cope with existential questions that scientific reasoning alone cannot answer, such as the fear of death or unexplained misfortune (Lundahl, 1993). There is increasing evidence that magical content in children's activities can benefit cognitive development, enhancing memory, imagination, and creativity. Principe and Smith (2008) found that 5- and 6-year-old American children who strongly believed in the Tooth Fairy told more vivid and detailed stories about losing their first tooth than peers with weaker belief. In another study, Subbotsky, Hysted, and Jones (2010) showed that children exposed to magical scenes from Harry Potter films performed significantly better on creativity tests than those who watched non-magical scenes. Subbotsky and Slater (2011) found that watching magical films helped children better distinguish fantasy from reality, an important skill for moderating the effects of media content on behavior. Research by Boyer and Walker (2000) suggests that counterintuitive magical effects are especially “attention grabbing,” making them more memorable than ordinary events.

Additional studies have found that magical themes can aid memory for unrelated content, such as commercial brands embedded in films (Subbotsky & Matthews, 2011). Magical thinking helps children construct alternative imaginary worlds, broadening their perspectives and supporting divergent thinking (Eugene Subbotsky, Claire Hysted, & Nicola Jones, 2012). In light of this evidence, the present study aims to shed light on the role of science magic activities in developing key science concepts and vocabulary among preschool children. By integrating magical elements into hands-on science activities, this research explores how educators can leverage children's natural fascination with magic to promote curiosity, language development, and foundational scientific understanding.

Objectives

The current research aims at:

- 1- Identifying the effect of using scientific magical activities in developing some scientific concepts and vocabulary among pre-school children.
- 2- Developing some scientific investigation skills among pre-school children, such as (observation, prediction, planning, conducting investigation, interpreting data, asking more questions).

Source of science concepts

The movie Frozen is one of the best movies to choose from movies because it contains many science activities for ice science, and it contains several ideas related to ice science. All of these activities are known as frozen activities that fall under the heading of sensory science and they provide a lot of fun and are also easy to do at home or school! These awesome activities are not only beautiful but also educational. They help children explore science concepts such as chemical reactions, melting and freezing ice, water science, non-Newtonian fluids, polymers, and crystal growth while improving fine motor skills as well! These activities are also science that enables children to feel great sensory components for hands-on learning.

METHODOLOGY

This study employed a simple repeated measures research design to investigate the effect of science magic activities on the development of science concepts and vocabulary among preschoolers. The repeated measures design involves using a single group of participants who are exposed to multiple test occasions both before and after the intervention (Jones & Kenward, 2003). In this design, the pretest serves as a baseline control for the posttest results, allowing for a clear measurement of changes attributable to the intervention. Similar research designs have been effectively used in recent studies (Onyishi et al., 2021; Ugwuanyi, Ede, et al., 2020; Ugwuanyi, Gana, et al., 2020). In this research, a one-group pretest–posttest experimental design was used to gather empirical data. This design is supported by a descriptive method to provide detailed insights into the context and implementation process. A random sampling approach was adopted to select participants. The final sample consisted of 23 preschool children 9 boys and 14 girls randomly selected from Smart Baby Kindergarten in the Kafer El Zayat District, Egypt.

The experimental group received instruction specifically designed to teach basic science concepts and vocabulary through a structured program that incorporated science magic activities. The treatment phase of the study lasted for three months. Following the intervention, a posttest was administered to measure any changes in the children's understanding of the targeted science concepts and vocabulary.

Measures

To collect the necessary data, the researcher developed the Science Concept Test (ScT). The ScT covers foundational science topics including chemical reactions, ice melting and freezing, water science, non-Newtonian fluids, polymers, and crystal formation. The ScT is a 12-item multiple-choice test, with each item offering three options (A, B, and C). Children were expected to select the correct answer for each item. Correct responses were awarded two marks each, while incorrect responses received zero, yielding a total possible score ranging from 0 to 24. Additionally, the Science Vocabulary Test (SvT) was developed to assess children's understanding of key scientific vocabulary. The SvT focuses on terms such as crystal, solution, snowflakes, sink, float, changes in matter, mixture, frozen fractals, clouds, water cycle, rainbows, hurricanes, and snowstorms. The SvT consists of 13 multiple-choice questions, each with three options (A, B, and C). Similar to the ScT, each correct response was awarded two marks, with a total maximum score of 26 and a minimum score of 0. In addition to the ScT and SvT, the study used a Note Card Assessment to evaluate selected science concepts connected to magical thinking skills. This note card included six skill dimensions rated on a four-point scale: 4 = performs the skill with great skill, 3 = performs the skill brilliantly, 2 = performs the skill fairly proficiently, and 1 = does not perform the skill. Together, these measurement tools provided a comprehensive evaluation of the children's development of scientific understanding and vocabulary as influenced by the science magic activities.

FINDINGS

Data Analysis of Research Question One

Table 1. Shows Averages, standard deviations, and “p” values for the scores of the children in the experimental group in the pre- and post-measurements of the scientific concepts test “scientific concepts and sub-dimensions.”

Significance level	T value	Degree of freedom	Standard deviation	Average	number	group	Dimensions	Series
0.01	3.80	22	1.37 0.97	2.08 3.30	23 23	Pre - post	Chemical reactions	1
0.01	5.47	22	1.72 1.45	2.39 4.86	23 23	Pre-post	Ice melting and freezing	2
0.01	9.95	22	1.20 1.24	2.00 5.00	23 23	Pre-post	Water Sciences	3
0.01	4.77	22	0.89 1.23	1.47 2.91	23 23	Pre-post	Non-Newtonian fluids	4
0.13	1.55	22	0.99 0.96	0.78 1.26	23 23	Pre-post	Polymer	5
0.08	1.80	22	1.02 0.89	0.95 1.43	23 23	Pre-post	Crystal growth (crystals)	6
0.01	8.94	22	4.23 4.92	9.69 18.78	23 23	Pre-post	Total score	7

Table 2. Shows Averages, standard deviations, and “t” values for the scores of the children in the experimental group in the pre- and post-measurements of the scientific vocabulary test “scientific concepts and sub-dimensions.”

Significance level	T value	Degree of freedom	Standard deviation	Average	Number	group	Dimensions	Series
0.13	1.55	22	1.02 0.94	0.95 1.39	23 23	Pre-post	crystal	1
0.01	2.85	22	0.94 0.94	0.60 1.39	23 23	Pre-post	solution	2
0.01	3.14	22	0.97 0.84	0.69 1.56	23 23	Pre- post	snowflakes	3
0.01	3.14	22	0.97 0.84	0.69 1.56	23 23	Pre-post	Sink	4
0.01	5.01	22	0.84 0.77	0.43 1.65	23 23	Pre- post	Float	5
0.01	5.46	22	0.94 0.41	0.61 1.91	23 23	Pre- post	change in matters	6
0.01	3.44	22	0.97 0.77	0.69 1.65	23 23	Pre- post	mixture	7
0.01	3.76	22	0.94 0.77	0.60 1.66	23 23	Pre- post	frozen fractals	8
0.01	2.57	22	1.02 0.77	0.95 1.65	23 23	Pre-post	Clouds	9
0.01	4.59	22	0.97 0.57	0.69 1.82	23 23	Pre-post	hydrologic cycle or water cycle	10
0.01	4.09	22	0.97 0.57	0.69 1.83	23 23	Pre- post	Rainbows	11
0.01	6.55	22	0.84 0.41	0.43 1.91	23 23	Pre-post	Hurricane	12
0.01	4.21	22	0.99	0.78	23	Pre-post	Snowstorm	13

			0.57	1.82	23			
0.01	14.98	22	2.75 3.12	8.86 23.12	23 23	Pre-post	Total vocabulary score	14

Table 3. Shows average, standard deviations and t-values for the scores of the children in the experimental group in the post-test and follow-up measurements of the scientific concepts test (scientific concepts and sub-dimensions).

Significance level	T value	Degree of freedom	Standard deviation	Average	number	group	Dimensions	Series
0.49	0.69	22	0.97 0.89	3.30 3.47	23 23	Post-follow up	Chemical reactions	1
0.25	1.16	22	1.45 0.99	4.86 5.21	23 23	Post-follow up	Ice melting and freezing	2
0.05	2.07	22	1.24 0.84	5.00 5.56	23 23	Post-follow up	Water Sciences	3
0.05	2.33	22	1.23 0.89	2.91 3.47	23 23	Post-follow up	Newtonian fluids	4
0.01	3.34	22	0.96 0.41	1.26 1.91	23 23	Post-follow up	Polymer	5
0.01	3.02	22	0.89 0.00	1.43 2.00	23 23	Post-follow up	Crystal growth (crystals)	6
0.01	3.76	22	4.92 2.93	18.78 21.85	23 23	Post-follow up	Total score	7

Table 4. Illustrates Average scores of the children of the experimental group in the post-test and follow-up measurements, to test the scientific vocabulary as a whole and the sub-dimensions. The researcher used the Paired-Samples T Test to detect the significance of the difference between the averages (using SPSS. V21). The following table (4) show s these results:

Significance level	T value	Degree of freedom	Standard deviation	average	number	Group	Dimensions	Series
0.06	2.01	22	0.94 0.57	1.39 1.82	23 23	Post-follow up	crystal	1
0.10	1.69	22	0.94 0.68	1.39 1.73	23 23	Post-follow up	Solution	2
0.08	1.81	22	0.84 0.57	1.56 1.82	23 23	Post-follow up	snowflakes	3
0.18	1.36	22	0.84 0.57	1.56 1.82	23 23	Post-follow up	Sink	4
0.42	0.81	22	0.77 0.57	1.65 1.82	23 23	Post-follow up	Float	5
0.32	1.00	22	0.41 0.68	1.91 1.73	23 23	Post-follow up	change in matters	6
0.42	0.81	22	0.77 0.57	1.65 1.82	23 23	Post-follow up	Mixture	7
0.42	0.81	22	0.77 0.57	1.65 1.82	23 23	Post-follow up	frozen fractals	8
0.08	1.81	22	0.77 0.41	1.65 1.91	23 23	Post-follow up	Clouds	9
0.57	0.56	22	0.57 0.41	1.82 1.91	23 23	Post-follow up	hydrologic cycle or water cycle	10
0.32	1.00	22	0.57 0.41	1.82 1.91	23 23	Post-follow up	Rainbows	11

0.32	1.00	22	0.41 0.00	1.91 2.00	23 23	Post- follow up	Hurricane	12
0.66	0.43	22	0.57 0.68	1.82 1.73	23 23	Post- follow up	Snowstorm	13
0.38	0.89	22	3.12 2.37	23.13 23.91	23 23	Post- follow up	Total vocabulary score	14

DISCUSSION

In this research, The results of the scientific concepts variable in this research are consistent with the results of previous studies, which are as follows: -

(Van Hook, Huziak, and Nowak ,2005) conducted a study to determine whether practical lessons and inquiry-based science magic activities would help kindergarten students develop mental models of the concept of air. One of the difficulties of teaching science to kindergarten students is how abstract many concepts are. They often ask children to infer information that cannot be directly observed. To make science concepts more concrete, teachers often need to help children create mental models. The study was conducted in a Midwestern city with 39 kindergarten children in half-day programs. A scientist taught seven 30-minute lessons using science magic activities and songs. The scientist's goal was to create a mental model for children to understand the concept of air. In the first lesson, children had to come up with evidence for the existence of air. The next six lessons included investigations in which children developed the "air balls" mental model and used it to understand air in different contexts. The investigations included (a) hitting and moving objects with ping pong balls, (b) comparing how fast flat paper and crumpled paper fall, (c) learning about surface area using parachutes, (d) experimenting with a "mouse bowling game" with weight and air resistance, (e) investigating air pressure using straws, and (f) learning about Newton's third law using propeller cars. The researchers analyzed pre- and post-interview responses and videotapes of the subjects' body language and behavior. The results showed that in the pre-interview, most of the kindergarteners used their previous experiences to answer questions about air and justify their explanations. For example, the majority of the children said that air is wind and explained that it is real because they feel it. Twenty-five percent of the children said they did not know what air is made of. Air . Post-interview data showed that more children were able to explain what air is and what it is made of, and they used the model to explain their thinking. After the investigations, more children used deeper explanations that included new mechanisms and language. At the pre-interview, only a quarter of the children knew that air was in an empty bottle, compared to two-thirds who knew it at the post-interview. The authors noted that the inquiry-based science lessons and activities were not enough for all children to use a mental model to transform their thinking, and that some children relied heavily on science to confirm their thinking. The researchers concluded that the inquiry-based science lessons and activities helped most preschoolers learn not only about air but also how to apply knowledge about air in different contexts. This study suggests that young children can explain and justify an idea scientifically, and that this research can help them create mental models to understand air. Further research is needed to see if young children can create mental models to help them understand abstract concepts in different science disciplines. (Van Hook & Huziak-Clark ,2008) conducted a half-day study with 49 preschoolers to determine whether inquiry-based science lessons and activities could increase children's understanding of energy. The kindergarteners received five 30-minute lessons centered around the five-step learning cycle model: engage, explore, explain, extend, and evaluate. The lessons included: (a) hands-on exploration, (b) whole-group discussions, (c) demonstrations of how toys use energy, and (d) songs and key phrases about energy. After analyzing the pre- and post-interviews for symbols and patterns, the researchers found that most children could distinguish between where energy comes from and how it is used. The kindergarteners were also able to provide examples of living and inanimate objects that use energy. In the post-interview, the children used more vocabulary from the discussions and incorporated more reflection into their thinking. One question from the interview was about how to pump energy into a plastic rabbit and an inflatable toy. In the pre-interview, very few children were able to pump energy into the plastic rabbit, but in the post-interview, all students were able to give the rabbit energy by squeezing it, causing it to jump. The authors concluded that "preschoolers are capable of developing a basic understanding of energy if they are provided with practical experiences that relate to their own lives" (Van Hook Huziak-Clark, 2008, p. 12). One limitation of this study is the limited number of participants; more replications would be needed. Another limitation was that the scientist taught the lessons to the preschoolers. The classroom teacher may not have the background knowledge or confidence to create or facilitate some of the experiments.

(Vanna's , 2013) pointed out in the study of 64 students from two first-grade and two third-grade classrooms at a private elementary school investigated the effects of inquiry-based science learning on young children's understanding of thermodynamics. First- and third-grade teachers volunteered to participate in the study. One class from each grade was randomly assigned to either an experimental or a control class. Children in the experimental group participated in guided experiments in the school assembly hall and during recess or free-choice time. In pairs, the experimental children participated in three investigations in which they made observations, collected and recorded data, made predictions, and attempted to solve problems. In the first investigation, they explored heat,

equilibrium, and heat flow using a bowl of room-temperature water, a warm bottle of water, a cold bottle of water, and a laptop computer. During the last two investigations, the children learned about insulation and heat flow. In one investigation, they had to use different materials to keep juice cold, and in the other, they had to choose from the same material and keep hot chocolate hot. An experimenter was in the conference room with the children to facilitate the investigations by prompting the children to make predictions and helping collect data. The experimenter also explained thermodynamics and heat flow to the children and prompted them to make contact with it during the investigations between February and April. The children in the intervention participated in three lessons. The control classes received no instruction on this topic and never saw the experimental room. Varma used an open-ended clinical interview before and after the test to measure the children's learning. The interviews were transcribed for coding and data analysis. The results showed that over time, the guided experiences allowed the first and third graders to learn about the concept of thermal equilibrium. She also found that the children in the experimental group had more complete mental models of thermodynamics than the children in the control group. Posttest scores showed that 63 percent of the intervention group's third-graders increased their understanding of heat flow compared to 36 percent of the control group's third-graders. Similarly, 57 percent of the intervention group's first-graders increased their understanding of heat flow compared to 10 percent of the control group's first-graders. The results also showed that the children in the experimental group gave more answers than the control group that did not contain any misinformation when identifying and explaining good insulators, but they were not statistically significant. The authors concluded that the educational content was accessible to younger students because the thermodynamic and heat flow investigations built on pre-existing experiences of keeping things hot and cold and that inquiry-based learning motivates children to become active learners (Varma, 2014). Varma noted that further research is needed to determine which aspect of the intervention increased children's learning: (a) the experimentation, (b) the investigations, (c) the materials, or (d) the combination. One limitation of this study was that the control group did not receive any instruction on the topic; this may have skewed the results. It is thought that it would be important to replicate the study but with the control group receiving direct instruction on the topic for comparison and the size of the study also limits the results.

Furthermore, The results of the vocabulary variable in this research are consistent with the results of previously conducted studies, which are as follows: - (Block ,2020) states that children who are unable to learn science through pure scientific vocabulary need practical field scientific activities to help them understand concepts. These practical or inquiry-based activities are not limited to traditional scientific experiments. Children are encouraged to ask questions, solve problems, and be creative (Ed, 2015). Inquiry-based learning is accomplished through crafts, songs, dances, and stories (Donohue & Buck, 2017). When these activities are completed in meaningful ways, children can make meaningful connections between their work and their learning (Marzano, 2010; Suárez et al., 2020). By taking advantage of a wide range of hands-on learning activities, children have a better opportunity to become familiar with science vocabulary and concepts, allowing for better understanding and transfer between contexts (Brown & Concannon, 2019; Rice & Deshler, 2018). Science vocabulary can be complex for children, and it can feel as if students are learning a whole new language before they can begin to understand the concepts (Block, 2020; Brown & Concannon, 2019; Rice & Deshler, 2018). However, when teachers recognize this barrier and address this difference during science lessons and activities, children tend to understand words and concepts better. (Nelson & Allen, 2020; Rice & Deshler, 2018). A review of the literature found that vocabulary instruction has value not only in literacy classrooms but across all subject areas. By incorporating effective vocabulary strategies into activities in science instruction, teachers can help children identify what type of vocabulary words they are trying to decode and help decode the word in a science context. Many different strategies can be used in inquiry-based and vocabulary-based activities in the classroom to help teach science vocabulary, such as adapting to children's needs and learning resources, using peer discussion, visual displays for learning such as interactive word walls, and incorporating inquiry-based, hands-on activities. These strategies will help children develop academic speaking skills, which will help them throughout their educational careers (Block, 2020; Carrier, 2011; Nelson & Allen, 2020; Suárez et al., 2020).

finally, In the case of non-statistically significant results such as crystal growth (crystals), polymers, chemical reaction, melting and freezing of ice, and other concepts and vocabulary addressed in the current research: - The researcher believes that despite the prevalence of these concepts and vocabulary in modern daily life, there are few experiments on the subject in teaching science during primary or secondary education. These concepts and related vocabulary are not found in kindergarten, but primarily in biology or chemistry. Therefore, I prepared experiments related to these topics with the aim of providing children with an understanding of them and in line with science education standards and in a language appropriate for children so that each lesson can be adapted to the vocabulary of the classroom. The important thing is that each lesson contains practical activities for repetition. The concepts taught through scientific magic activities enhance the understanding of research vocabulary, and encourage future teachers to teach science actively and consciously, which has been proven to provide greater retention of lessons in the short and long term among children. This actually provides two motivations for our program: (1) to make these concepts and vocabulary relevant to young children, thus providing a foundation for them before they enter the curriculum, and (2) to teach the next generation of teachers about polymer science, chemical reactions, melting

and freezing, crystals, and other concepts and vocabulary associated with the freezing unit and how to communicate effectively with their classes. The Magic Science Activities program has proven successful, and this view is consistent with a study by (Rose K. Cersonsky, Leanna L. Foster, Taeyong Ahn, Ryan J. Hall, Harry L. Van Der Laan, and Timothy F. Scott, 2017) which aimed to introduce children to polymers, crystal growth, chemical reactions, melting and freezing, and other concepts and vocabulary associated with the freezing unit. It is a potential area of study in addition to promoting positivity toward science. To achieve this, each unit is designed to employ active learning techniques that can be applied universally across all age groups. These techniques have been shown to enhance children's interest in a subject for further learning as well as improve long-term retention. Because children's classroom experiences with science have a powerful impact on their attitudes toward science, these lessons use the context of existing classrooms to present science in a new way, either by introducing new topics or by recruiting scientists and engineers as non-traditional scientists and instructors. This exposure to a diverse range of STEM professionals is critical to encouraging interest in and positive attitudes toward STEM careers.

CONCLUSIONS

There are three main conclusions to be made based on these science magic activities. First of all, the results generally indicate that some scientific concepts and vocabularies can be developed in preschool children using scientific magic activities.

Secondly, the teaching method using scientific magic activities helps to improve the conceptual understanding of preschool children in the freezing unit compared to the traditional teaching method.

Thirdly, the teaching method using scientific magic activities is more effective than the traditional teaching method in improving children's achievement in the theoretical and practical freezing science unit.

RECOMMENDATIONS

The researcher recommended that 1-using scientific magic activities as an introduction prepared by the researcher to improve children's vocabulary skills and their academic performance in science.2-seminars and in-service training should be conducted for female teachers regarding the development and implementation of materials for magical scientific activities in the classroom.3-the researcher recommends conducting a similar study covering a larger number of participants elsewhere.4- the researcher recommends that integrating scientific magical activities with the five-year learning cycle model for developing educational materials is effective, useful, and promising. In future studies related to inquiry-based learning, more research should be devoted to developing scientific magic activities related to other science topics, such as light, energy, and heat, which can then be integrated into inquiry learning to improve children's learning performance and attitudes toward science.5- teachers should be introduced to teaching methods and techniques that support inquiry and create an investigative atmosphere for performing inquiry-based science activities in the preschool stage. In attempting to implement inquiry-based science activities, teachers must plan learning experiences related to the children's immediate surroundings, appropriate to their level of development. These activities should be planned and implemented to use basic investigative skills.6-when learning new content vocabulary, children should have the opportunity to do so and communicate with their peers while interacting with the content vocabulary.

7-children should have multiple opportunities to use content vocabulary correctly. This could be through text cards, graphic organizers or interactive activities such as experiments or investigations. This will allow children to build their own understanding of the content vocabulary.

Limitations

The following delimitations were made for this research

"Teaching methods" is too vast and complex field. There are number of teaching methods presently available. It is neither feasible nor desirable to take more than two teaching methods in one research study. Therefore, the present research is restricted to using science magic activities. Sample was taken from a smart baby kindergarten – kafer elzayat district – Egypt consisted of (23) preschoolers 9 (boys) and 14 (girls). The research was confined to the subject of snow science for preschoolers classes , as it is a typical fundamental science.

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EVALUATION OF GLASS CEILING PERCEPTION IN TERMS OF DIFFERENT GENERATIONS: GENERATIONS X, Y AND Z

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ABSTRACT

This study aims to examine the glass ceiling perceptions of individuals from different generations in relation to socio-demographic variables. The research was conducted using a quantitative method and a relational survey model with a sample of 356 employees working in the public and private sectors in the Turkish Republic of Northern Cyprus (TRNC). Data were collected using a 56-item questionnaire adapted from three validated sources and culturally tailored for the study. The questionnaire included demographic questions and sub-dimensions related to glass ceiling perceptions. Data were analyzed using SPSS 26.0. The findings show that participants' overall glass ceiling perception is moderate but pronounced in certain areas. While the perception of gender equality is generally positive, perceptions of discrimination against women in leadership positions remain significant. Female employees emphasized individual effort and performance as key to advancement. Gender differences were significant only in perceptions related to women's perceived inadequacy, while single individuals exhibited more egalitarian attitudes compared to married participants. Higher education levels were associated with stronger perceptions of equality and lower perceptions of discrimination. Although no significant differences were found between generations overall, Generation Y showed greater sensitivity to discrimination issues. The strong correlations among sub-dimensions indicate that the glass ceiling is perceived as a multidimensional but interrelated phenomenon. Overall, the results highlight the continuing need for policies that promote gender equality in the workplace.

Keywords: Glass Ceiling, Generational Differences, Gender, Gender Equality

1. INTRODUCTION

1.1. Problem

The glass ceiling perception refers to the invisible yet powerful social, cultural, and institutional barriers that prevent individuals—particularly women and minority groups—from advancing beyond a certain point in their careers, regardless of their abilities and achievements (Tükeltürk & Perçin, 2008). This phenomenon emerges as a result of structural factors such as discrimination, prejudice, and traditional gender roles, and it limits individuals' opportunities to realize their full potential (Demir & Kartal, 2018; Kobal, 2021). The impact of the glass ceiling in professional life not only restricts women's opportunities for promotion but also reduces their visibility within organizational structures and their representation in decision-making processes (Tahtaloğlu & Özgür, 2020).

In contrast to the glass ceiling, Williams (1992) introduced the concept of the "glass escalator", demonstrating that men tend to be promoted more rapidly in professions traditionally dominated by women. Similarly, Wilson-Kovacs et al. (2006) found that women face significant barriers in advancing to higher positions, particularly in male-dominated sectors, highlighting the persistent influence of the glass ceiling. Research by Yamagata et al. (1997) further shows that women's representation at senior levels in the public sector remains low, indicating an ongoing structural inequality.

The perception of the glass ceiling is closely linked to the sense of career stagnation that individuals may feel within corporate environments; however, how this perception is shaped and how it varies across generations has not been sufficiently explored. Considering the differing values and career expectations of distinct generations, it is essential to examine how the perception of the glass ceiling is experienced in a generational context.

Generation X comprises individuals who grew up during times of social change and economic uncertainty, often valuing independence and work-life balance (Keleş, 2011). Generation Y (Millennials) came of age immersed in digital technologies and tend to prioritize meaningful work and flexible working conditions (Özdemir, 2020). Generation Z, the youngest cohort, has grown up fully integrated with technology, shows strong tendencies toward individuality and entrepreneurship, and embraces a flexible, value-driven approach to careers (Sönmez, 2022).

These generational differences contribute to a diverse workplace but also influence how structural barriers like the glass ceiling are perceived. The social, cultural, and technological environments in which these generations were raised have shaped their attitudes toward corporate hierarchies, promotion processes, and career development. For instance, the Baby Boomer generation values corporate loyalty and long-term stability (Kupperschmidt, 2000), whereas Generation X places more emphasis on individual success, and Generation Y prioritizes meaningful work and flexibility. Generation Z, meanwhile, values independence and innovation (İraz, 2020). These varying perspectives can lead to generational differences in how the glass ceiling is perceived and experienced.

The way the glass ceiling is viewed by different generations is closely connected to the changing expectations and experiences shaped by each generation's unique social, economic, and cultural context. For example, the Baby Boomer generation (1946–1964) built their careers in more traditional, hierarchical work environments at a time when the glass ceiling was particularly pronounced for women. Generation X (1965–1980) developed a more conscious approach to challenging these barriers and supported the integration of more egalitarian policies in the workplace. Generation Y (1981–1996) and Generation Z (born after 1997) display higher awareness of the glass ceiling phenomenon, driven by an emphasis on individual success and a preference for flexible working conditions. Nevertheless, despite this increased awareness, the glass ceiling persists in many sectors, and generational differences in experiences highlight the importance of collective efforts to address this issue (Çelik, 2020). This study aims to uncover both individual differences in perception and the ways in which generational values shape these perceptions by analyzing how the glass ceiling is experienced across Generations X, Y, and Z. In doing so, it seeks to contribute to the development of strategic approaches that promote equal opportunities within a multigenerational workforce.

1.2. Purpose of the Research

The purpose of this research is to examine the glass ceiling perceptions of individuals from different generations and to reveal the effects of demographic variables such as gender, marital status, education level, income level and professional seniority on this perception. In this context, the level and dimensions of the glass ceiling perception are compared between generations X, Y and Z; the effect of the socio-demographic differences of employees on this perception is evaluated with statistical analyses.

1.2.1 Sub-Objectives

- Is there a significant difference in the perception of the glass ceiling among generations X, Y and Z?
- Does the gender variable make a significant difference in the perception of the glass ceiling?
- Do the variables of marital status, education level, income level and length of service show a significant relationship with the sub-dimensions of the glass ceiling perception?
- Is there a significant correlation between the sub-dimensions of the glass ceiling perception?
- What is the predictive power of demographic variables that affect the glass ceiling perception?

1.3. Importance of the Research

The glass ceiling phenomenon, as an invisible but systematic obstacle that continues to exist in business life, especially for women employees and minority groups, directly affects the principles of organizational equality and justice. This study not only reveals how these structural obstacles are experienced at the individual perception level, but also makes an original contribution in terms of evaluating them from an intergenerational perspective. Because today's workforce consists of multi-generational structures where more than one generation is simultaneously in the work environment, this situation can create managerial difficulties due to values, expectations and perceptions specific to generations.

The importance of the research in this context is that it addresses in a multifaceted way how the glass ceiling perception is shaped not only by gender but also by other demographic factors such as age, seniority, education, income level and marital status. The findings obtained can guide the production of egalitarian and inclusive policies in workplaces. For example, determining the generations or socio-demographic groups where the glass ceiling perception is concentrated will enable the development of awareness and intervention strategies for these groups. This study has the potential to contribute theoretically and practically to fields such as human resources management, organizational behavior, sociology of work and gender studies. Presenting the differences in the perception of glass ceiling among generations with concrete data has the potential to add a new dimension to the literature in this field. Finally, the research findings are also important in terms of expanding the limited empirical data on working life in the Turkish Republic of Northern Cyprus.

2. THEORETICAL FRAMEWORK

2.1. Women's Labor Force and the "Glass Metaphor"

Women's participation in the workforce is an indispensable element of social and economic development. Women face not only structural, symbolic, and cultural barriers as they try to advance in the business world. "Glass

metaphors" are a conceptualization frequently used in the literature to explain the invisible, abstract, and effective barriers that women face in business life. The most well-known of these metaphors is the "glass ceiling". The glass ceiling refers to the invisible limitations that prevent women from reaching senior management positions, despite being talented and competent (Erdem, 2021).

Glass metaphors are not limited to the glass ceiling. The glass cliff reveals that women are often assigned to risky leadership positions with a high probability of failure, and in these cases, they are identified with failure and suffer more institutional damage (Binns, 2020). The glass labyrinth emphasizes that women's advancement in business life is a winding, complex and obstacle-filled path. These metaphors show that women struggle to get a job, stay in that job, be promoted and have access to decision-making mechanisms. These obstacles to the female workforce often do not occur in the form of direct and overt discrimination, but indirectly through prejudices, stereotyped gender roles, social expectations and organizational cultures. For example, social judgments that women have inadequate leadership skills can lead to their exclusion from managerial roles. The fact that home and care responsibilities are largely assigned to women causes women to experience interruptions in their careers and to be disadvantaged in inflexible working conditions (Küçük, 2019).

Although the female labor force participation rate in Türkiye has increased in recent years, female representation rates are still quite low, especially in the upper management levels of the private sector. According to the Turkish Statistical Institute (TUIK) data, the rate of women reaching senior management positions is quite low compared to men. Not only gender equality poses a problem in terms of organizational efficiency and decision quality. Because research shows that diversity increases management performance, encourages innovation and strengthens employee loyalty (Ayca & Kan, 2021).

Glass metaphors are not only an analysis tool for understanding the position of women in business life; they also provide an important conceptual framework for developing social policies. Institutions need to recognize these invisible barriers, develop institutional strategies to ensure gender equality, and create inclusive leadership policies. Individual awareness and cultural transformation are as critical to this process as organizational arrangements.

2.2. Glass Ceiling

The concept of the "glass ceiling" is a sociological term used to describe the invisible and highly effective barriers that prevent women from reaching senior positions in business life. While this concept refers to the systematic and structural barriers that women face in reaching managerial positions in particular, it has a "glass" quality because these barriers are not clearly stated or do not officially exist. While women can rise to certain levels in corporate structures, they face gender-based discrimination in reaching higher-level leadership positions (Yıldırım & Aytay, 2022).

The glass ceiling phenomenon is not only a product of deeply rooted norms at the individual, organizational and societal levels. Gender roles, traditional family structures and care responsibilities attributed to women make women's career paths more complex and limited compared to their male counterparts. It prevents many talented and experienced women from reaching managerial positions, leading to inefficient use of the workforce potential (Kalaycı & Özdemir, 2021). Male-dominated structures at management levels do not sufficiently recognize women's leadership styles and often evaluate them with prejudices such as "insufficient" or "too emotional".

One of the most basic symptoms of the glass ceiling syndrome is the low rate of women advancing in organizations. While women are heavily involved in entry-level positions in most sectors, senior management rates are shaped in favor of men. For example, in Türkiye, the representation of women in public and private sector management positions is still quite limited. According to TÜİK (2022) data, the rate of women managers is only around 17.5% and this rate has increased very little over the years.

The causes of the glass ceiling include gender-based prejudices, work-family conflict, lack of mentoring, lack of role models, and male-dominated network structures (Acar & Göçer, 2020). The perception that women need to make more efforts, prove themselves, and often adopt masculine behavioral patterns in order to reach higher positions in the workplace also reinforces the glass ceiling (Yinal, 2025). On the other hand, women often internalize the reason why they are not promoted, thinking that it is due to their own inadequacies, and this brings about a lack of self-confidence. In order to break the glass ceiling, it is of great importance to adopt policies based on gender equality at the institutional level. In this context, regulations such as flexible working hours, parental leave practices, determining objective criteria in promotion processes, and developing mentoring programs for women can be effective in helping women reach higher-level positions (Akin & Kalkan, 2023).

Sticky floor is a concept used to describe the concentration of women in low-income, low-status positions with limited opportunities for advancement in business life. It causes women to remain in less prestigious, insecure and limited-range jobs from the beginning of their careers. Sticky floor, unlike the glass ceiling syndrome, refers to being forced to remain fixed at a lower level rather than being prevented from advancing to the upper levels of the career (Ecevit, 2021).

It is observed that women's participation in the workforce is particularly concentrated in the service, care and retail sectors; these areas are generally low-wage and have limited promotion opportunities. The intensive employment

of women in these areas, on the one hand, leads to the reproduction of gender roles, and on the other hand, restricts their economic independence and condemns them to sticky ground (Kahraman & Çetin, 2022). Women are forced to prefer flexible and low-profile jobs due to their domestic responsibilities and social expectations, and these preferences limit their advancement in business life in the long term. The basis of the sticky ground phenomenon is women's invisible labor in business life, family obligations and exclusion in decision-making mechanisms. Since the responsibility of establishing a balance between family and work life is mostly placed on them, women tend to turn to jobs that require less time and energy and have less income. This is especially evident for married women with children (Toksöz, 2021). The fact that women cannot break out of this vicious circle limits their professional development and reinforces gender inequality.

Another dimension of sticky ground is that organizational structures indirectly perpetuate this type of discrimination. Promotion and career development opportunities are mostly offered to male employees, while female employees are encouraged to remain in low-responsibility positions "voluntarily". Over time, this reduces women's organizational visibility and reduces their chances of becoming candidates for leadership positions (Yıldız & Aksu, 2022). The fact that women are more likely to be employed in low-wage jobs also deepens the phenomenon of women's poverty; this economic vulnerability limits their attempts to change jobs or get promoted. Various measures need to be taken at individual, institutional and public levels to reduce the sticky ground effect. At the individual level, it is important for women to invest in their professional development and to have access to mentoring and support networks that are suitable for them. At the institutional level, human resources policies need to consider gender equality, promotion systems need to be made transparent and career development opportunities need to be offered equally to female employees (Akyol & Tuncer, 2023).

2.3. Generation Concept and Classification

The concept of generation describes a group of individuals born in a specific historical period and influenced by the socio-economic, cultural and political conditions of that period. Members of a generation are shaped by similar social experiences and interactions, which makes their perceptions of the world and value systems similar. Generations are usually defined by a ten-year interval, and the most obvious difference between different generations is the dynamics of the period in which they live. In social sciences, the concept of generation is widely used, especially to understand the effects of social changes on individuals' attitudes, behaviors and beliefs (Kupperschmidt, 2000).

The concept of generation is an important way to understand the historical process of a society and to analyze the psychological, social and cultural development of individuals. Each generation is shaped by the social structures, economic conditions, technological developments and political environments in which it grows. For example, economic crises such as the Great Depression can significantly affect the values and outlook of individuals in a generation. On the other hand, factors such as rapid technological developments and globalization can also cause new generations to emerge. The concept of generation is only a biological, social and cultural phenomenon (Strauss & Howe, 1991).

Generational differences help us understand the effects of changes in social structure on individuals. These differences are especially evident in the workforce, education and family life. For example, the Baby Boomer generation grew up in an environment where post-war prosperity and institutional structures were strong, and they adopted more traditional and hierarchical structures. Generation X, on the other hand, adopted a more individualistic and independent lifestyle due to the impact of economic crises and social changes. Generation Y, under the influence of the digital revolution, has adopted more technological innovations and prioritized flexibility and work-life balance. Generation Z consists of individuals who have grown up in a completely digital world and are integrated with this world (Özdemir, 2020).

The concept of generations allows for the analysis of different aspects of the social structure. This allows us to examine not only the values and attitudes of one generation but also their contributions to society and the challenges they face. Differences between generations are often evident in areas such as cultural norms, attitudes towards business, family structures, education levels and even approaches to technology. Intergenerational interaction is critical for social harmony and development because each generation transmits knowledge, values and experiences to the next generation. These interactions contribute to the continuous evolution of the social structure (Yıldız & Kızıldağ, 2022).

Generation classifications help us understand the common characteristics and value systems of different generations that emerged as a result of historical, cultural and social changes. Members of a generation are greatly influenced by the social, economic and political conditions of the period in which they live, and these influences play a determining role in the generation's worldview and lifestyle. Therefore, generation classifications do not only describe those born in the same biological period, but also include groups shaped by social, cultural and economic factors. Some generally accepted generation classifications are:

Baby Boomer Generation (1946-1964)

The Baby Boomer generation was shaped by the increase in prosperity and economic growth experienced after World War II. This generation was born with the economic stability and the reestablishment of families after the

war. Baby Boomers were raised with values such as strong work ethic, loyalty and job security. They are known for their commitment to traditional work order and institutional structures. Members of this generation are closely tied to social norms and traditional values. Baby Boomers generally prefer to work in the same workplace for a long time and remain loyal to a single workplace until they retire (Kupperschmidt, 2000).

Generation X (1965-1980)

Generation X is a generation that has grown up under the influence of social changes, economic crises and technological transformation. Members of this generation have grown up especially in periods of economic stagnation. Generation X has been shaped by economic uncertainties, job insecurity and changes in family structure. Changes in family structure, especially increasing divorce rates and increasing participation of women in the workforce, have led Generation X to develop values such as independence, entrepreneurship and flexibility. This generation generally has a more individualistic approach, values corporate hierarchy and personal success. is careful to maintain work-life balance and seeks more flexibility in work life (Keleş, 2011).

Generation Y (1981-1996)

Generation Y is a generation shaped by the influence of the digital revolution and globalization. This generation grew up in a period when the internet and mobile technologies were becoming widespread. Generation Y can communicate quickly in the business world and perform multiple tasks at the same time by using technology effectively. Members of Generation Y generally value factors such as meaningful work, rapid career advancement, and flexible working hours. They prefer more collaborative work environments instead of hierarchical structures. They have values such as social responsibility and environmental awareness, and they prioritize these values in business life (Özdemir, 2020).

Generation Z (1997 and later)

Generation Z is a generation that was born and raised with digital technology. The internet, social media and mobile devices have completely shaped the lifestyle of Generation Z. This generation is known for their ability to quickly access information and communicate instantly. Generation Z has a more independent and freer understanding of business than previous generations. They may prefer to work freelance and take part in project-based jobs. Generation Z attaches great importance to issues such as sustainability, environmental awareness and diversity. Members of this generation work in a way that is fully integrated with technology and are looking for rapid advancement in their careers (Sönmez, 2022).

Differences between generations are important, especially in terms of workforce management, education, marketing and social structures. Each generation brings a different perspective to the world of work and social norms. These differences play a critical role, especially in managers' management of intergenerational interactions, in resolving intergenerational conflicts and in creating a more productive work environment. The fact that each generation has a different understanding of business leads organizations to reshape their leadership approaches and corporate cultures. Therefore, understanding the differences between generations is of great importance in terms of ensuring social harmony and creating a productive work environment (İraz, 2020).

3. METHOD

3.1. Research Model

This study was conducted based on the quantitative research method. Quantitative studies are research types that are based on an objective and systematic approach, where observable phenomena are examined through measurable data (Büyüköztürk et al., 2022). Such studies aim to analyze the relationships between variables with numerical data and to reach generalizable results from the findings obtained. The relational screening model was used in the study. The relational screening model is a screening type that aims to reveal the current relationship level between two or more variables (Karasar, 2022). This model allows variables to be measured in their natural environments and the correlations between them to be determined. In this context, the relationships between the glass ceiling perception and the demographic and generational characteristics of generations X, Y and Z were examined with statistical analysis techniques. The relational screening model is a model that is frequently used in determining the factors affecting the attitudes, perceptions and behaviors of individuals, especially in social sciences. In this study, the differences and relationships between the glass ceiling perception levels of individuals belonging to different generations were examined, and the effects of generational dynamics on the perception in question were tried to be revealed.

3.2. Universe and Sample

The universe of this research consists of individuals working in private sector and public institutions operating throughout the Turkish Republic of Northern Cyprus (TRNC). Based on the assumption that the glass ceiling perception, which is the subject of the research, can be experienced differently in different sectoral structures, the study group was designed to include private sector and public employees. Due to the heterogeneous structure of the universe, the stratified sampling method was preferred. Stratified sampling is a probability sampling method that increases the representativeness of the sample by ensuring that a proportionate and significant number of individuals are selected from each of the subgroups (e.g. sectors, institution types) in the universe (Büyüköztürk

et al., 2022; Karasar, 2022). With this method, two main layers were created as private sector and public sector, and the sample was determined by taking into account the size of the sector and the employee profile from each layer. The sample of the research consists of a total of 356 employees from both sectors. This sample size was kept at a level that would ensure the reliability of the analyses and data diversity was preserved by ensuring adequate representation from each layer. Thus, it has become possible to comparatively analyze the views of both private sector and public employees regarding the glass ceiling perception.

3.3. Data Collection Tools

The survey method was used to collect data in the study. The prepared survey form was adapted from a form developed by Çelik (2020) and based on scales that had previously undergone validity-reliability analyses. The scale in Çelik's study was created by blending subject-specific measurement tools that are widely used in the literature and has a structure that is frequently preferred in the field of application.

The questionnaire form used in this study was created by combining questions from three different sources and consists of a total of 56 items.

In the first section, the demographic information form used in Bayram Sezen's (2008) study titled "The Glass Ceiling Barrier Faced by Female Employees in Hotel Businesses" was adapted. The questions in this section are aimed at determining the demographic and professional characteristics of employees such as age, gender, marital status, education level, sector, position and service period. In addition, the interaction between women's family life and work life and the relationship of this situation with the glass ceiling perception were also questioned.

The second section includes questions adapted from Umut Haydar Üçyıldız's (2017) study titled "Perceptions of Glass Ceiling Syndrome of Female Employees". This section focuses on the invisible barriers that women employees in the private sector and public sector encounter in institutional structures, the difficulties they face in promotion processes, and the factors affecting their career advancement.

The third section includes questions taken from Thi Thu Thao Tran's (2014) study that evaluate the social stereotypes, gender-based prejudices and obstacles to women's visibility in leadership roles that they encounter in business life.

This comprehensive scale, which was created by compiling three studies, allows for a multidimensional examination of the glass ceiling perception. All questions in the scale have undergone linguistic and cultural adaptations that can be applied to employees working in the public and private sectors throughout the TRNC. The questionnaire form was structured in accordance with the purpose of the study and aims to measure the glass ceiling perception levels of the participants objectively and reliably.

3.4. Analysis of Data

The research data were analyzed with SPSS 26.00 Program. In this context, first of all, normality test was performed. Kolmogorov-Smirnov test was applied in order to test the normality assumption and the significance value of $p < .05$ in all subscales revealed that the data statistically deviated from normal distribution. However, in large samples ($n > 300$), this test is quite sensitive and even small deviations can produce significant results (Field, 2013). Therefore, not only Kolmogorov-Smirnov test but also skewness and kurtosis values were examined. The fact that skewness and kurtosis values are between -1 and +1 indicates that the data are close to normal distribution (George & Mallery, 2010). According to the values in the table, skewness and kurtosis values for all four subscales remain in this range. This shows that the data are approximately normally distributed and parametric tests can be applied.

4. FINDINGS

Table 1. Socio-Demographic Distribution of Participants

Gender	Frequency (n)	Percentage (%)
Woman	199	55.90
Male	157	44.10
Generation		
Generation X (1965–1979)	113	31.74
Generation Y (1980–1999)	162	45.51
Generation Z (2000–2010)	81	22.75
Marital status		
Married	218	61.24
Single	138	38.76

Gender	Frequency (n)	Percentage (%)
Educational Status		
Primary School / Secondary School	18	5.06
High school	57	16.01
Associate Degree	81	22.75
Licence	125	35.11
Masters / PhD	75	21.07
Income Level		
Too bad	17	4.78
Bad	53	14.89
Middle	141	39.61
Good	107	30.06
Very good	38	10.67
Seniority Period		
0–1 year	35	9.83
2–5 years	107	30.06
6–10 years	90	25.28
11–15 years	73	20.51
16 years and above	51	14.33
Total	356	100

Within the scope of the research, data was obtained from a total of 356 participants working in private sector and public institutions in the Turkish Republic of Northern Cyprus. 55.90% of the participants are female and 44.10% are male. When the generational distribution is examined, 45.51% of the participants belong to Generation Y (1980–1999), 31.74% to Generation X (1965–1979) and 22.75% to Generation Z (2000–2010). In terms of marital status, 61.24% of the participants are married and 38.76% are single. When the level of education is examined, the largest group consists of bachelor's degree graduates with 35.11%, followed by associate degree (22.75%), master's/doctorate (21.07%), high school (16.01%) and primary/secondary school graduates (5.06%). In the distribution regarding monthly income level, 39.61% of the participants stated their income level as “medium”; 30.06% answered “good”, 14.89% “bad”, 10.67% “very good” and 4.78% “very bad”. When evaluated in terms of professional seniority, 30.06% of the participants have 2–5 years of experience, 25.28% have 6–10 years, 20.51% have 11–15 years, 14.33% have 16 years and above, and 9.83% have 0–1 year. This demographic distribution shows that the sample represents various groups in terms of sector, age, education, and experience, and allows for multi-faceted analyses of the glass ceiling perception.

3.2.2. Descriptive Analyses

Table 2. Descriptive Statistics Regarding Scales

Scale / Sub-Dimension	Min.	Max.	$\bar{X}$	P.S.
Thoughts on the Inadequacy of Women in Leadership	1.00	5.00	2.80	0.57
Discrimination Against Women in Leadership Positions	1.21	5.00	3.08	0.72
Perception of Equality between Men and Women in Business Life	1.98	4.72	3.46	0.48
The Effect of Women's Family Life and Preferences on Leadership Level	1.16	4.45	2.94	0.60
General Scale (Glass Ceiling Perception)	2.27	4.02	3.07	0.31

According to the descriptive statistics regarding the scale and sub-dimensions used in the study, the glass ceiling perception of the participants is generally at a medium level. The general scale mean is $\bar{X}=3.07$ ($SD=0.31$), and it is seen that the glass ceiling perception of the participants is significant but not extremely high. When the sub-dimensions are examined, the sub-dimension with the highest mean, “The perception that women and men are equal in business life”, stands out ($\bar{X}=3.46$, $SD=0.48$). This finding shows that the participants partially believe in the principle of gender-based equality. On the other hand, while the dimension of “Discrimination against women in leadership positions” indicates a higher perception with an average of $\bar{X}=3.08$ ($Sd.=0.72$), “The impact

of women's family life and preferences on the leadership level" ($\bar{X}=2.94$, $Sd.=0.60$) and "Thoughts about women's inadequacy in leadership" ($\bar{X}=2.80$, $Sd.=0.57$) are expressed with relatively lower averages. This situation reveals that the participants are more distant from the prejudices about women's inadequacy in leadership, but their perceptions of structural discrimination are more pronounced. When evaluated in general, the glass ceiling perception of the individuals participating in the study varies over different dimensions, but it is seen that the perception of gender equality in particular is above the medium level.

Table 3. Descriptive Statistics of Questions About Female Employees

Scale / Sub-Dimension	Min.	Max.	$\bar{X}$	P.S.
The level of education I received is an important factor in reaching this position.	2.13	5.00	3.68	0.55
The information I received from my superiors contributed to my promotion.	1.23	5.00	3.55	0.67
My social relationships outside of work played a role in my promotion.	1.00	5.00	2.74	0.79
Career development programs have helped with promotion.	1.31	5.00	3.20	0.71
It was effective that I worked harder than my colleagues.	2.69	5.00	3.96	0.47
It has had an impact on my higher performance.	2.39	5.00	4.01	0.48

According to the evaluation made in line with the statements answered only by female employees in the research, the perceptions of the participants regarding the promotion process show a significant diversity. Female employees stated that "showing higher performance" ($\bar{X}=4.01$, $SD=0.48$) and "working harder than your colleagues" ($\bar{X}=3.96$, $SD=0.47$) were the most effective factors in the promotion process. These findings reveal that individual effort and performance are seen as important career advancement criteria by women. The role of education level in promotion was also evaluated with a relatively high average ($\bar{X}=3.68$, $SD=0.55$), and the effect of information obtained from superiors ($\bar{X}=3.55$, $SD=0.67$) was found to be moderately significant. On the other hand, the effect of social relations outside of work on promotion ($\bar{X}=2.74$, $SD=0.79$) and the contribution of the company's career development programs ($\bar{X}=3.20$, $SD=0.71$) were evaluated with lower means. These results show that female employees think that personal performance and effort are more decisive than institutional support or social environment in the promotion process.

Table 4. T-Test Results Regarding the Glass Ceiling Perception Sub-Dimensions According to the Gender Variable

Sub Dimension	Group	n	$\bar{X}$	P.S.	t	df (df)	p
Inadequacy Thoughts	Woman	199	2.73	0.51	-4.69	354	.000
	Male	157	2.99	0.51			
Perception of Discrimination	Woman	199	3.20	0.68	1.58	354	.115
	Male	157	3.08	0.70			
Perception of Equality	Woman	199	3.46	0.50	0.52	354	.600
	Male	157	3.40	0.48			
Family Influence	Woman	199	2.91	0.58	-1.65	354	.099
	Male	157	3.03	0.58			

In the study, an independent samples t-test was applied to determine whether there were significant differences in four sub-dimensions according to the gender variable. In the sub-dimension of "Thoughts on the Inadequacy of Women in Leadership", a statistically significant difference was found between female ($\bar{X}=2.73$, $SD=0.51$) and male ($\bar{X}=2.99$, $SD=0.51$) participants ($t=-4.69$, $SD=354$, $p<.001$). This finding shows that men agree more with the inadequacy of women in leadership compared to women. No significant differences were found in the other sub-dimensions. Although it was observed that women ($\bar{X}=3.20$, $SD=0.68$) received higher average scores than men ($\bar{X}=3.08$, $SD=0.70$) in the sub-dimension of "Discrimination Against Women in Leadership Positions", this difference was not statistically significant ($t=1.58$, $p=.115$). Similarly, no significant difference was found between male and female participants in the sub-dimensions of "Perception of Equality between Women and Men in Business Life" ($t=0.52$, $p=.600$) and "Impact of Women's Family Life and Preferences on Leadership Level" ($t=-1.65$, $p=.099$). These results show that significant differences in the perception of the glass ceiling based on gender emerge only in the context of prejudices towards women's inadequacy.

Table 5. ANOVA Test Results for Glass Ceiling Perception Sub-Dimensions According to Generation Variable

Dimension	Generation Group	n	Avg.	P.S.	f	p
Inadequacy Thoughts	Generation X	113	2.79	0.50	2.91	.056
	Generation Y	162	2.78	0.58		
	Generation Z	81	2.94	0.44		
Perception of Discrimination	Generation X	113	3.12	0.70	3.29	.039
	Generation Y	162	3.18	0.71		
	Generation Z	81	2.97	0.68		
Perception of Equality	Generation X	113	3.39	0.53	1.02	.362
	Generation Y	162	3.46	0.49		
	Generation Z	81	3.50	0.43		
Family Influence	Generation X	113	3.01	0.64	1.35	.260
	Generation Y	162	2.96	0.56		
	Generation Z	81	2.86	0.56		

According to the results of one-way analysis of variance (ANOVA) conducted in order to determine the differences in glass ceiling perception between generations in the study, a statistically significant difference was found between generations only in the sub-dimension of “Discrimination Against Women in Leadership Positions” ($f=3.29$, $p<.05$). In this sub-dimension, the highest mean belongs to Generation Y ($\bar{X}=3.18$, $SD=0.71$), and the lowest mean belongs to Generation Z ($\bar{X}=2.97$, $SD=0.68$). This finding shows that Generation Y individuals are more sensitive to discrimination in women's access to leadership positions. No significant difference was observed in the other sub-dimensions. Although the p value approached the significance limit in the sub-dimension of “Thoughts About the Inadequacy of Women in Leadership” ($f=2.91$, $p=.056$), it was not considered statistically significant. However, it is seen that Generation Z individuals ($\bar{X}=2.94$) carry this perception at a higher level, while Generation Y has the lowest average ($\bar{X}=2.78$). No significant difference was found between generations in the sub-dimensions of “Perception of Equality between Women and Men in Business Life” and “Impact of Women’s Family Life and Preferences on Leadership Level” ($p>.05$). These results reveal that some dimensions of the glass ceiling perception show relative differences between generations, but there is no significant and consistent generational effect in all dimensions.

Table 6. T -Test Results for Glass Ceiling Perception Sub-Dimensions According to Marital Status Variable

Sub Dimension	Group	n	$\bar{X}$	P.S.	t	df (df)	p
Inadequacy Thoughts	Married	218	2.85	0.52	0.31	354	.760
	Single	138	2.83	0.52			
Perception of Discrimination	Married	218	3.14	0.68	-1.69	354	.092
	Single	138	3.27	0.69			
Perception of Equality	Married	218	3.38	0.51	-2.33	354	.020
	Single	138	3.52	0.47			
Family Influence	Married	218	3.04	0.59	2.63	354	.009
	Single	138	2.85	0.60			

According to the results of the independent samples t-test conducted to determine whether the glass ceiling perception differs according to the marital status variable, statistically significant differences were found in some sub-dimensions. In the sub-dimension of “Perception of Equality between Women and Men in Business Life”, the average score of married individuals ($\bar{X}=3.38$, $SD=0.51$) was found to be significantly lower than single individuals ($\bar{X}=3.52$, $SD=0.47$) ($t=-2.33$, $SD=354$, $p<.05$). This result shows that single individuals have a higher perception of gender equality compared to married individuals. Similarly, in the sub-dimension of “The Effect of Women’s Family Life and Preferences on the Level of Leadership”, it was determined that single individuals ($\bar{X}=2.85$, $SD=0.60$) scored lower than married individuals ($\bar{X}=3.04$, $SD=0.59$) and this difference was statistically significant ($t=2.63$, $p<.01$). This finding reveals that married individuals believe that family life is more effective at the level of leadership. In terms of the other sub-dimensions, “Thoughts About the Inadequacy of Women in Leadership” ($t=0.31$, $p=.760$) and “Discrimination Against Women in Leadership Positions” ($t=-1.69$, $p=.092$), no significant difference was found between married and single individuals. The results show that marital status can

be a determining variable especially in terms of the perception of gender equality and the effect of family life on leadership.

Table 7. ANOVA Test Results Regarding the Sub-Dimensions of Glass Ceiling Perception According to the Educational Status Variable

Dimension	Education Group	n	Avg.	P.S.	f	p
Inadequacy Thoughts	Primary School/Secondary School	18	2.91	0.55	0.61	.656
	High school	57	2.83	0.53		
	Associate Degree	81	2.82	0.49		
	Licence	125	2.78	0.52		
	Masters/Doctorate	75	2.74	0.41		
Perception of Discrimination	Primary School/Secondary School	18	3.31	0.75	2.45	.045
	High school	57	3.27	0.63		
	Associate Degree	81	3.23	0.61		
	Licence	125	3.13	0.58		
	Masters/Doctorate	75	3.01	0.60		
Perception of Equality	Primary School/Secondary School	18	3.18	0.41	4.37	.002
	High school	57	3.36	0.49		
	Associate Degree	81	3.47	0.52		
	Licence	125	3.51	0.47		
	Masters/Doctorate	75	3.58	0.50		
Family Influence	Primary School/Secondary School	18	3.07	0.63	1.78	.133
	High school	57	3.01	0.62		
	Associate Degree	81	2.99	0.55		
	Licence	125	2.93	0.58		
	Masters/Doctorate	75	2.86	0.59		

In the study, one-way analysis of variance (ANOVA) was applied in order to determine whether there was a significant difference in the glass ceiling perception sub-dimensions according to the educational background of the participants. According to the results, a significant difference was found in the “Perception of Discrimination Against Women in Leadership” sub-dimension according to the level of education ($f=2.45$, $p<.05$). The mean score in this sub-dimension increases as the level of education decreases; the highest mean is observed in primary/secondary school graduates ($\bar{X}=3.31$) and the lowest mean is observed in master's/doctoral graduates ($\bar{X}=3.01$). This can be interpreted as the perception of discrimination decreases as the level of education increases. In addition, a significant difference emerged in the “Perception of Equality between Women and Men in Business Life” sub-dimension ($f=4.37$, $p<.01$). In this sub-dimension, the perception of equality increases as the level of education increases; The lowest mean is seen in primary/secondary school graduates ($\bar{X}=3.18$), and the highest mean is seen in those with a master's/doctorate degree ($\bar{X}=3.58$). On the other hand, no statistically significant difference was found in the sub-dimensions of “Thoughts on the Inadequacy of Women in Leadership” ($f=0.61$, $p=.656$) and “The Effect of Women's Family Life and Preferences on the Leadership Level” ($f=1.78$, $p=.133$) according to the level of education. These results show that some dimensions of the glass ceiling perception differ depending on the level of education of individuals, and especially the perceptions of gender equality and discrimination are positively associated with education .

Table 8. Correlation Matrix Between Sub-Dimensions

	Inadequacy Thoughts	Perception of Discrimination	Perception of Equality	Family Influence
Inadequacy Thoughts	1.00	0.88	0.08	0.76
Perception of Discrimination	0.88	1.00	0.06	0.86
Perception of Equality	0.08	0.06	1.00	0.07
Family Influence	0.76	0.86	0.07	1.00

In order to examine the relationships between the sub-dimensions that constitute the glass ceiling perception, Pearson correlation analysis was applied. As a result of the analysis, a positive and highly significant relationship was found between “Inadequacy Thoughts” and “Discrimination Perception” ($r=0.88$). Similarly, the “Family Influence” variable also showed a highly positive relationship with both “Inadequacy Thoughts” ($r=0.76$) and “Discrimination Perception” ($r=0.86$). These findings show that the perceived inadequacy thoughts and discrimination perception in women reaching leadership positions tend to be evaluated in connection with the effects of family life. On the other hand, the “Perception of Equality between Women and Men in Business Life” sub-dimension showed a very low level of relationship with the other sub-dimensions (Inadequacy with $r=0.08$; Discrimination with $r=0.06$; Family Influence with $r=0.07$). This situation reveals that the perception of equality is evaluated relatively independently from the other dimensions of the glass ceiling perception. In general, high correlations between sub-dimensions support that the glass ceiling perception is shaped by multi-dimensional but inter-related structures.

Table 9. The Effect of Generations on Glass Ceiling Perception (Regression Analysis Results)

Variable	B (Coefficient)	Std. Error	t	p	Bottom 95%	Top 95%
Fixed (Millennials)	3,016	0.039	76,904	.000	2,939	3,094
Generation X	0.002	0.061	0.034	.973	-0.118	0.122
Generation Z	0.058	0.067	0.874	.383	-0.073	0.189

According to this model, the average glass ceiling perception level of Generation Y is 3.016. The average difference of Generation X is +0.002 (insignificant difference) and Generation Z is +0.058 units; however, these differences are not statistically significant ($p>.05$). As a result, there is no significant difference in the glass ceiling perception levels between generations. Especially when compared to Generation Y, both Generations X and Z have similar perception levels.

CONCLUSION

According to the findings obtained in the study, it is seen that the perceptions of the participants regarding the glass ceiling phenomenon are generally at a medium level, but these perceptions become more evident in some sub-dimensions. Positive attitudes towards gender equality indicate that the participants partially believe in gender-based equality of opportunity; on the other hand, the perception of discrimination against women in leadership positions indicates the existence of structural obstacles. The fact that individual effort and performance are at the forefront in the evaluations of female employees regarding the promotion process in particular creates an impression that institutional support mechanisms are inadequate. Analyses conducted according to the gender variable reveal that they agree less with the prejudices that women are inadequate in leadership, while male participants adopt this judgment more. Although intergenerational comparisons show that the perception of the glass ceiling differs in some dimensions, no significant difference is found between generations at the general level. However, it is striking that Generation Y exhibits a higher sensitivity in the perception of discrimination. The results obtained in terms of the marital status variable show that single individuals have more positive attitudes towards gender equality. Married individuals, on the other hand, have a more pronounced perception regarding the impact of family life on leadership roles. It is understood that as the level of education increases, more positive attitudes are displayed towards gender equality and discrimination, while perceptions of structural inequalities are stronger in individuals with lower levels of education. When the relationships between the sub-dimensions are examined, it is seen that the perception of inadequacy regarding women's leadership roles and the perception of discrimination are mutually reinforcing structures. The effects on family life also show a strong relationship with these two dimensions. In contrast, the perception of gender equality has a relatively independent structure from the other sub-dimensions.

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EXAMINING THE VIEWS OF SCHOOL ADMINISTRATORS IN TRNC WORKING AT PRIMARY EDUCATION LEVEL ON THE USE OF ARTIFICIAL INTELLIGENCE

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ABSTRACT

This study aims to investigate the views and perspectives of primary school administrators affiliated with the Ministry of National Education in North Cyprus regarding the use of artificial intelligence (AI) technology in education. A qualitative research approach was employed, utilizing a case study design. The study group consisted of primary school principals and assistant principals working under the Ministry of National Education. Data were collected using a semi-structured interview form, and the data were analyzed through descriptive and content analysis techniques.

The findings indicate that school administrators believe artificial intelligence should be used more effectively and efficiently in education. However, they also emphasized that the areas in which AI could be integrated in schools need to be expanded and supported by improving the physical and technological infrastructure. Consequently, it is suggested that the roles of school administrators in promoting the use of AI should be strengthened through in-service training programs, and that further studies are needed to encourage the broader adoption of AI by teachers.

Additional research could focus on enhancing the existing physical and technological infrastructure of public schools in North Cyprus. Moreover, further studies could be undertaken to design AI applications developed by the Ministry of National Education to support school administrators, teachers, and students in practice. Researchers are encouraged to replicate this study with a larger sample using mixed research methods and to compare the results with the findings of the present study. Finally, more comprehensive studies could be conducted to examine the opinions and attitudes of teachers and students regarding the use of artificial intelligence in education under the same research theme.

Keywords: North Cyprus, Primary Education, School Administrator and Artificial Intelligence.

INTRODUCTION

As technology advances rapidly, the concept of artificial intelligence has recently entered our lives and started to manifest itself in the field of education. Artificial intelligence, in the shortest and simplest definition, is a set of systems that can imitate human intelligence and improve itself by repeating the information that it collects with new inputs. The most important feature that distinguishes artificial intelligence from other technologies is its ability to imitate human intelligence. The term artificial intelligence, coined in the 1950s, was first used for the development of algorithms and calculations. According to many theories, the aim of artificial intelligence is to imitate human intelligence through computers.

The concept of artificial intelligence was first introduced by John McCarthy in 1956. According to his definition, cognitive behaviors of human nature can also be performed by machines. High-level cognitive skills such as problem solving, reasoning, and reasoning reveal artificial intelligence through effective computer programs. The first commercial robot built in 1961 can be given as an example of a computer program. The artificial intelligence robots developed in 1968 began to be able to read or translate in foreign languages. Between 1986 and 1993, Honda company started the first humanoid robot studies and formed the basis of robots that can communicate with their environment. In 1997, Deep Blue, an artificial intelligence engine developed on chess, defeated Kasparov, the world number one in chess tournaments, which was considered revolutionary in the development of artificial intelligence technologies. In

2001, again through Honda, artificial intelligence robots with movement capabilities were produced. This work, which again represented the pioneering of humanoid robot work, was the most important leader of all artificial intelligence technologies to be developed in the coming years. Between 2009 and 2015, Google experimented with driving without a driver, pedals and steering wheel. In 2017, the AlphaGo artificial intelligence robot produced through the DeepMind company defeated Lee Sedol, the world champion in this field. The chronological ranking of artificial intelligence from past to present is shown in the form of a table in Figure-1.

Figure 1. Stages of Artificial Intelligence

Year	Artificial Intelligence Robot	Enhanced Features
1952 - 1957	IBM 704	The first computers that could play chess.
1961	UNIMATE	Industrial robot enabling automation.
1968	OCR -MT	Computer robots capable of scanning printed and written texts and translating into foreign languages.
1986 - 1993	E series - EO	Humanoid robots with human characteristics.
1997	DEEP BLUE	AI-powered chess engine capable of completing complex strategy games at an advanced level.
2000	ASIMO	A humanoid robot that can perform human movements and is an improved version of its predecessors.
2009	WAYMO	A vehicle that can go completely driverless with autonomous driving technology.
2017	ALPHAGO ZERO	Unlike others, the artificial intelligence robot built as a Go player is the first robot to create strategies through trial and error.

Three concepts stand out for future artificial intelligence, which are *artificial general intelligence* that is not limited to certain areas, *artificial super intelligence*, which refers to artificial intelligence with a higher level of intelligence than humans, and *singularity*, which refers to artificial intelligence producing more intelligent and autonomous artificial intelligence and becoming autonomous. Based on these three concepts, it is possible to state that artificial intelligence may be cognitively superior to humans in the future (Çetin, 2021).

Ensuring the most effective use of artificial intelligence applications in education is one of the important issues discussed today. The fact that artificial intelligence applications offer students the opportunity to learn as per their own level and learning speed is considered as the biggest advantage of these applications (İşler, 2021). Artificial intelligence increases educational diversity, educational equality, educational experiences, and the opportunities available in education. Such technologies can support educational administrators to a certain extent in their administrative work. Hence, administrators can use their time more effectively and find more time for the necessary endeavors for better education while improving the quality of education.

Artificial intelligence technologies allow the customization of educational materials based on student abilities, habits and learning styles to ensure better individual progress with the right analysis, results and steps. Tailor-made materials would help to save time by creating the necessary materials easily. Among the prominent benefits of artificial intelligence applications are that they offer excellent observations and results very quickly and at minimal cost (Uzun and Öztürk 2021).

AIM OF THE RESEARCH

This study aims to evaluate the way and level of artificial intelligence of primary school administrators affiliated to the Turkish Republic of Northern Cyprus (TRNC) Ministry of National Education (MEB), their usage areas and their opinions on this issue respectively. Therefore, the objective is to reveal the effects of school administrators' use of artificial intelligence on students, school and environment, the aspects reflected on education and the purposes of artificial intelligence technologies in education. Thus, the general research question of the study was determined as "What are the opinions of school administrators working at the primary school level on the use of artificial intelligence?". In this context, based on the general research question, the sub-objectives of the study can be listed as follows:

Sub Objectives

1. What are the opinions of school administrators working in schools affiliated to the TRNC Ministry of National Education in the 2024-2025 academic year on the use of artificial intelligence technologies in the field of education and educational administration?
2. What do they think about the areas in which artificial intelligence can be used in educational administration?
3. What are the areas where artificial intelligence is most needed in educational administration?
4. What advantages and disadvantages can artificial intelligence bring when used in educational administration?
5. What are the roles of school administrators in the use and dissemination of artificial intelligence?
6. What changes may occur in the duties and responsibilities of school administrators with the use of artificial intelligence in the management of education?

METHOD

Research Model

This research was conducted to examine the views of school administrators working at the primary level in the TRNC regarding the use of artificial intelligence using a qualitative research method. Qualitative research seeks to understand the underlying reasons behind social realities and human behavior, employing qualitative data collection methods such as observation, interviews, and document analysis (Gürbüz & Şahin, 2014). Unlike quantitative research, qualitative research emphasizes the process rather than the outcomes, aiming to uncover the deeper realities embedded in human behavior and phenomena. In this study, a case study design was adopted as the qualitative research approach. A case study is a methodological approach that involves an in-depth examination of a bounded system, using multiple data collection tools to systematically gather information about how that system operates (Chmiliar, 2010). Accordingly, this study focused on obtaining rich and detailed information about the topic through in-depth analysis.

Study Group and Sample

A study group is formed where it is not possible to collect information from the entire population. While quantitative research focuses on generalization and large samples, qualitative research aims to conduct in-depth studies on smaller and more specific sample groups. In this type of research, sample selection focuses on identifying individuals who can best explain the research problem and contribute to its solution (Baltacı, 2019). Moreover, it is important to establish a trust-based relationship with participants in qualitative research.

In terms of this study, the sample was selected with "purposive sampling" method that allows the selection of participants who can best answer the research questions and is a common approach in qualitative research (Yıldız, 2017). In addition, "Snowball Sampling" method was also preferred to expand the study group and reach the appropriate participants. The study group of the research consists of 20 school administrators working in the Nicosia district of the Ministry of National Education in the TRNC.

Data Collection Tool

In this study, semi-structured interviews—one of the common interview techniques in qualitative research—were used as the primary data collection tool. Although the questions in semi-structured interviews are prepared in advance, they can be adapted and expanded during the interview based on the direction of the conversation. This flexibility allows the researcher to obtain more in-depth and relevant responses. The aim of using the semi-structured interview form in this study was to determine the views of school administrators working at the primary level in the TRNC on the use of artificial intelligence. The questions in the interview form were designed as open-ended, allowing respondents to express their thoughts freely and in as much detail as they wished. In addition to the semi-structured interviews, a literature review was also conducted to support the data collection process. The interview form included the following guiding questions: Are artificial intelligence technologies used in the field of education and educational administration in your school?; In which areas do you think artificial intelligence can be used in educational administration?; What are the areas where artificial intelligence is most needed in educational administration?; What advantages and disadvantages might artificial intelligence bring when used in educational administration?; What are the roles of school administrators in the use and dissemination of artificial intelligence?; and What changes may occur in the duties and responsibilities of school administrators with the integration of artificial intelligence? The interview form was developed with input from five experts in the field, ensuring its relevance and clarity. With the approval of the Ministry of National Education, a total of 20 school administrators were interviewed as part of this research.

Data Collection

The required permissions were obtained from the TRNC-MEB Primary Education Department, and an application with complete documents was submitted to the University of Mediterranean Karpasia Institute of Social Sciences Ethics Committee for the ethical approval. Following the approval of the Ethics Committee (Annex-1), twenty

administrators of the various primary schools in the Nicosia district were contacted within the scope of the study and their interviews were conducted with the relevant forms.

Data analysis

The interviews were analyzed with qualitative data analysis method as one of the data collection tools. Descriptive analysis was chosen for systematic, understandable and direct monitoring of study data. Content analysis method refers to the in-depth examination and organization of qualitative and quantitative studies conducted independently of each other on a particular subject or field. Thus, general trends in that subject or field are determined. The results obtained in this method are expected to guide future studies planned for the targeted topics (Ültay & Akyurt, 2021). The study data were thematized to be analyzed in detail depending on the questions used in the interview process. The emerged themes were obtained by evaluating the data collected after the interviews with school administrators and were analyzed in 7 different dimensions through seven different tables.

Validity and Reliability

Qualitative research aims to clarify a specific topic in depth. The universal rules on validity and reliability under qualitative research requires the objective judgments for such research. The study data was analyzed with the aim to ensure the validity of the data, and the experts were consulted accordingly. Since qualitative methods are not based on numerical values and objective criteria, the answers in this method are generally not objective and the findings cannot be tested numerically (Houser, 2016). The absence of a strategy that can ensure the reliability and validity of qualitative research leads to criticism whether information from such research is scientific (Coşkun, 2022). Hence, the study information generated with data was revised and the results were described.

FINDINGS

This section covers the findings obtained by the in-depth analysis of the study data. The relevant information was divided under seven themes, which are presented as the following tables.

Table 1. Assessment of demographic information of the school administrators in the study group

Themes	F (n:)	%
Gender		
Male	8	40
Woman	12	60
Age		
Below 30	-	-
between 31-35	2	10
between 36-40	4	20
between 40-45	7	35
Above 46	7	35
Position		
Principal	8	40
Deputy Principal	12	60
Branch Teacher	3	15
Classroom Teacher	17	85
Post-Graduate Education		
Yes	9	45
No.	11	55
Experience as School Principal		
0-5 years	6	30
6-10 years	2	10
11-15 years	-	-
16-20 years	-	-
21-25 years	-	-

Experience as deputy principal

0-5 years	10	50
6-10 years	1	5
11-15 years	-	-
16-20 years	-	-
21-25 years	1	5

Participation to Seminars on the Use of Artificial Intelligence

Yes	1	5
No	19	95
TOTAL	20	100

In the study, the characteristics of school administrators working in different primary schools in Nicosia district were analyzed. Data on demographic information of school administrators are given in Table 1. It was determined that 60% of the administrators were female and 40% were male. 40% of the participants were principals and 60% were deputy principals. Among the participants, 30% of the principals' years of service were between 0-5 years, 10% between 6-10 years, 50% deputy principal's years of service were between 0-5 years, 5% between 6-10 years and 5% between 21-25 years. While 15% of the school administrators worked as branch teachers, 85% of them worked as classroom teachers. School administrators with postgraduate education constitute 45%, while those with bachelor's degree constitute 55% of the total. School administrators who attended a seminar on artificial intelligence were found to be 5%.

Table 2. Evaluation of the Use of Artificial Intelligence in Education and Administration in the Century We Live in

Themes	F (n:)	%
Effective and efficient use in education	10	23,8
Limited area of use in management	4	9,5
Use in management is necessary and efficient	12	28,6
Learning processes should be controlled	4	9,5
Use of artificial intelligence in homework should be controlled	1	2,4
There should be a principle of student relativity	4	9,5
Positive learning environment for the teacher	3	7,1
Use of artificial intelligence in education should be improved	4	9,5
TOTAL	42	100

As seen in Table 2, most of the school administrators stated that the use of artificial intelligence in education and management is necessary, efficient and effective. A certain number of them agree that the area of use in management is limited, learning processes should be controlled and there should be a principle of student relativity. A minority stated that it provides a positive learning environment for the teacher and that artificial intelligence should be controlled in homework assignments.

When the table is analyzed, 28,6% of the school administrators stated that the use of artificial intelligence in management is necessary and efficient, 23,8% stated that it is effective and efficient, 9,5% stated that the area of use in management is limited, it should be controlled in learning processes and there should be a principle of student relativity. 7,1% of the participants stated that artificial intelligence provides a positive learning environment for the teacher and 2,4% stated that the use of artificial intelligence in homework should be controlled.

Table 3. Evaluation of the Areas where School Administrators Use Artificial Intelligence in the Management Dimension in their Schools

Themes	F (n:)	%
Preparation of the curriculum	8	16,3
Teachers' course allocations	4	8,2
Communication and decision-making processes		
Language education practical courses	1	2,1
Increasing the use of educational technologies	4	8,2
Communication and decision-making processes	8	16,3

Execution of school management economy	4	8,2
Tracking students' attendances	6	12,2
Entering students' exam grades into the system	2	4,1
Making official correspondence	3	6,1
Monitoring and evaluating the education process	9	18,4
TOTAL	49	100

According to Table 3, school administrators stated that they mostly use artificial intelligence in monitoring and evaluating the educational process, preparing curricula, communication and decision-making processes and creating student attendance schedules.

However, the distribution of the areas where school administrators use artificial intelligence is as follows. 18.4% of the participants stated that they use artificial intelligence in following and evaluating the education process, 16.3% in preparing the curriculum and communication and decision-making processes, 12.2% in following students' attendance schedules, 8.2% in teachers' course distributions, increasing the use of educational technologies, executing school management economy, 6.1% in official correspondence, 4.1% in entering students' exam grades into the system and 2.1% in language education applied courses.

Table 4. Evaluation of the Areas Where School Administrators Need Artificial Intelligence in the Schools Where They Work

Themes	F (n:)	%
Providing facilities related to educational technologies	6	15
In-service training on the use of artificial intelligence	1	2,5
Data entry of school staff	3	7,5
Preparation of course programmes	3	7,5
Monitoring and evaluation of student performance	14	35
Data entry of student families	4	10
Evaluation of teacher's performance	9	22,5
TOTAL	40	100

According to Table 4, most of the school administrators stated that artificial intelligence is most needed in monitoring and evaluating student performance and evaluating teacher performance.

When the table is examined, 35% of them reported that they needed in the areas of monitoring and evaluating student performance, 22,5% in the areas of evaluating teacher performance, 15% in the areas of providing facilities related to educational technologies, 10% in the areas of data entry of student families, 7,5% in the areas of data entry of school staff and preparation of course programmes, and 2,5% in the areas of organizing in-service training on the use of artificial intelligence.

Table 5. Evaluation of the Advantages and/or Disadvantages of the Use of Artificial Intelligence in the Educational Management Dimension in the Institutions where School Administrators Work

Themes	F (n:)	%
Advantages		
Time management	13	16,9
Evaluation	6	7,8
Follow up of the education technologies	5	6,5
Facilitating the follow up for the teacher	7	9,1
Increasing the effectiveness in education	12	15,6
Disadvantages		
Cyber Security	2	2,6
Protection of personal data	3	3,9
Being outdated	6	7,8
Decrease in thinking and creativity	8	10,4
Addiction of artificial intelligence technologies	7	9,1
Decrease of the effectiveness of the human factor	8	10,4
TOTAL	77	100

When Table 5 is analyzed, it is seen that the advantages of using artificial intelligence in the dimension of educational management are mostly stated as time management and increased efficiency in education. On the other hand, the disadvantages are mostly defended as the decrease in thinking and creation skills, the decrease in the effectiveness of the human factor and the dependency of artificial intelligence technologies.

When the table is analyzed, regarding the advantages of using artificial intelligence in the educational management dimension, 16.9% stated that it provides time management, 15.6% stated that it increases efficiency in education, 9.1% stated that it provides ease of follow-up for teachers, 7.8% stated that it provides evaluation, and 6.5% stated that it facilitates the follow-up of educational technologies. As for the disadvantages, 10.4% stated that it decreases thinking and creation skills and reduces the effectiveness of the human factor, 9.1% stated the addiction on artificial intelligence technologies, 7.8% stated being outdated, 3.9% stated the protection of personal information and 2.6% stated that syber security might not be ensured.

Table 6. Evaluation of the Roles of School Administrators Regarding the Use and Dissemination of Artificial Intelligence in the Century We Live in

Themes	F (n:)	%
Organization of in-service trainings	11	32,4
Increasing the use of AI by teachers	12	35,3
Guiding the teachers and students	7	20,6
Ethical and effective use of AI	4	11,8
TOTAL	34	100

When Table 6 is analyzed, it was mostly reported that school administrators has the biggest role for the use and dissemination of artificial intelligence on increasing the use of artificial intelligence by teachers and organising in-service trainings.

When the table is analyzed, 35,3% of the participants stated that the roles of school administrators are to increase the use of artificial intelligence by teachers, 32,4% in the organization of in-service trainings, 20,6% in guiding teachers and students, and 11,8% in the ethical and efficient use of artificial intelligence.

Table 7. Evaluation of the Change that the Use of Artificial Intelligence in the Field of Educational Administration will Create in the Duties and Responsibilities of School Administrators

Themes	F (n:)	%
Saving time for education	9	20,5
Reducing the workload of the manager	8	18,2
Providing fast access	4	9,1
Following and using technology closely	12	27,3
Increasing supervision	3	6,8
Data being easily accessible	5	11,4
Giving importance to communication	3	6,8
TOTAL	44	100

When Table 7 is examined, it is seen that the use of artificial intelligence in the field of educational administration is mostly reported by school administrators as the necessity to follow and use technology closely, saving time for education, and changes in their duties and responsibilities.

When the table is analyzed more closely, 27.3% of the participants stated that it is necessary to follow and use technology closely, 20.5% stated that it saves time for education, 18.2% stated that it reduces the workload of the administrator, 11.4% stated that data is easily accessible, 9.1% stated that it provides fast access, 6.8% stated that it increases supervision and gives importance to communication.

DISCUSSION

It was reported by the school administrators participating in the research that the efficient use of artificial intelligence in the field of education and management in our schools in the current century is necessary and effective in education. However, while using artificial intelligence technologies, learning processes should be controlled, homework should be supervised, and the principle of student relativity should be taken into consideration. In its current state, the use of artificial intelligence technologies in administration remains limited, and its use should be improved in education.

School administrators can use artificial intelligence technologies in schools to monitor and evaluate the educational process, and can use them in preparing lesson programmes, communication and decision-making, and follow-up schedules for student attendance. Artificial intelligence will provide various benefits such as autonomous execution of archive work and procedures, elimination of problems related to personnel change, accurate, fast and easy access

to archives (Öztürk, H. 2021). Benefiting from these factors in education will carry us forward. Increasing the use of educational technologies can also show itself in other areas such as executing school management economy, conducting language education applied courses and conducting official correspondence.

Artificial intelligence is seen as a technology needed in the evaluation of teacher performance in schools when the opinions of school administrators are analyzed. It enables in-service trainings, data entry of school staff, preparation of course programmes, student follow-up and evaluation, and data entry of parents.

Artificial intelligence technologies have various advantages in education. Today, in research on artificial intelligence in education, a wide variety of applications are encountered in almost every field, not only knowledge-based, but also data and logic-based artificial intelligence and artificial intelligence applications. These include personalized teaching systems, exploratory education, data mining in education, student article analysis, intelligent agents, chatbots, education for children with special needs, child-robot interaction, assessment system based on artificial intelligence, automatic test creation systems. These areas are primarily related to supporting learning (İncemen and Öztürk 2024). In the educational management dimension, the participants reported that these applications provided advantages in time management and increased productivity in education.

On the other hand, as one of the weaknesses of artificial intelligence technologies, it has been stated that it reduces the effectiveness of the human factor and causes a decrease in thinking and creation skills. Protection of personal data, inadequacy of cyber security, dependency of artificial intelligence technologies are considered as other disadvantages. According to the participants in the study, it is among the duties of school administrators to ensure ethical and efficient use of artificial intelligence technologies in the use of artificial intelligence technologies, to organise in-service trainings on the subject, to provide guidance to teachers and students to increase the use of artificial intelligence and to provide support to teachers.

When artificial intelligence is used in the management dimension of education, it saves time for school administrators and education by providing fast access and increases the ability to follow and use technology closely. One of the strengths of artificial intelligence technologies is to be able to access data easily by alleviating the workload of the administrator.

With artificial intelligence systems, changes have occurred both in the type of people expected to be trained by the education system and in the way education functions. With this change, educators are the most important segment that needs to adapt to new educational goals and the way of functioning. All stakeholders involved in the education system, especially school administrators, branch teachers, and classroom teachers, should have the skills to use artificial intelligence systems and work in harmony with artificial intelligence systems (Demir, 2019).

Since artificial intelligence systems used in education analyze big data obtained from students, they can provide more detailed results than classical evaluation methods (Coşkun & Gülleroğlu 2021). While the use of systems based on artificial intelligence provides many advantages in terms of the quality of education, a system in which teachers are out of the way and based only on artificial intelligence will not be functional. Because although artificial intelligence systems act as personal teachers, they can sometimes give incorrect results for more specific situations because they are based on big data analysis (Chassignol et al., 2018).

RESULTS

In this study, the opinions of school administrators, principals and deputy principals working in primary schools affiliated to the Ministry of National Education in TRNC were analyzed. Within the scope of the research, data were collected from 8 school principals and 12 deputy principals working at the primary education level to reveal the 'Researching of the Opinions of School Administrators Working at the Primary Education Level in TRNC on the Use of Artificial Intelligence'. In the study, the case study model, one of the qualitative research designs, was adopted to examine the situation in schools. In the data collection process, a semi-structured interview form prepared for the participants to answer the interview questions as well as demographic information was used. The analysis of the data was carried out by coding and analyzing the themes using qualitative data analysis techniques.

According to the results of the research, school administrators think that artificial intelligence should be used more effectively and efficiently in the field of education. In addition, in the educational management dimension, they stated that the necessity of the use of artificial intelligence in the century we live in is increasing day by day and when it is used correctly, they think that it will increase efficiency in the management dimension of educational institutions. Considering the differences between male and female participants and years of service, it is observed that everyone generally has an opinion that the use of artificial intelligence in the field of education increases student and administrator motivation.

It has been concluded that the areas where school administrators use artificial intelligence in the administrative dimension in the schools where they work are the preparation of course programmes, determining the course

distributions of teachers, monitoring and evaluating the education process, following the attendance schedules of the students, entering the exam grades of the students into the system, and making official correspondence.

The school administrators stated that the areas where they need the use of artificial intelligence in the schools where they work; the opportunities related to educational technologies should be improved based on the physical and technological infrastructure of the schools related to educational technologies. It was concluded that data on monitoring and evaluating student and teacher performance should be accessed.

The advantages of using artificial intelligence in the schools where school administrators work, especially in the management dimension of educational institutions; It has been concluded that it increases efficiency in education, enables them to reveal time management more effectively and efficiently, and provides the teacher with ease of follow-up in the process. From this point of view, it was concluded that the decrease in the effectiveness of the human factor related to the disadvantages, the increase in the dependency of artificial intelligence technologies, and the decrease in thinking and creation skills occurred.

It was mentioned that in-service trainings should be organized for the roles of school administrators regarding the dissemination of the use of artificial intelligence and new studies should be carried out to increase the use of artificial intelligence by teachers. In addition, teachers are expected to guide students more actively in the learning and teaching process based on the constructivist learning approach.

It has been concluded that the changes that will be created on the duties and responsibilities of school administrators due to the use of artificial intelligence at the level of education management will ensure that the technology is closely followed and used, the loss of time in education is eliminated, as well as the reduction of the workload of school administrators, and finally, the access to data will be faster and easier.

Recommendations

Recommendations regarding the Research

- Studies can be carried out to improve the existing physical and technological infrastructure of schools.
- In-service training processes that can be effective and efficient can be planned to improve the skills of school administrators regarding the use of artificial intelligence.
- Studies can be carried out to design artificial intelligence applications that can be used by school administrators, teachers and students in schools by MoNE and to support them in practice.
- The process can also be supported by in-school trainings organized by school administrators for teachers.

Recommendations for the Researcher

- The results and findings obtained by addressing the same and similar research topics in a larger sample of participants using mixed research method can be compared with the findings determined in the current study.
- A more differentiated and comprehensive study can be conducted by measuring or examining the opinions or attitudes of teachers and students regarding the use of artificial intelligence in education under the same study title.

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LEADERS' PERCEPTION OF ARTIFICIAL INTELLIGENCE AND ITS EFFECT ON DIGITAL LEADERSHIP SKILLS

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ABSTRACT

This study aims to examine the effect of leaders' perceptions of artificial intelligence (AI) on their digital leadership skills. The study was conducted using a quantitative research method, and a personal information form, an artificial intelligence perception scale, and a digital leadership scale were employed as data collection tools. The research population consisted of white-collar employees working in management and leadership positions across various sectors in the Turkish Republic of Northern Cyprus. The data collected were analyzed using the SPSS 26.0 statistical software. The findings reveal that leaders' perceptions of artificial intelligence significantly differ based on various demographic variables and are strongly associated with their digital leadership competencies. Factors such as gender, age, education level, and sector were found to influence both AI perception and digital leadership skills. Notably, male participants, those with higher age and education levels, and individuals employed in knowledge-based sectors demonstrated higher levels of AI perception. Similarly, participants working in sectors such as healthcare, education, and consultancy exhibited more advanced digital leadership capabilities. A strong and positive correlation was identified between AI perception and digital leadership skills, and regression analysis indicated that AI perception significantly predicts digital leadership competencies. These results suggest that within the context of digital transformation, leaders need not only technical expertise but also a developed awareness of and positive perception toward emerging technologies such as AI in order to effectively lead their organizations.

Keywords: Artificial Intelligence, Digital Leadership, AI Perception, Leadership Skills

1. INTRODUCTION

1.1. Problem

Today, digitalization refers to a comprehensive transformation process that profoundly affects not only the use of technological tools but also the structure of institutions, ways of working, and leadership approaches. This transformation necessitates the development of new skills and strategic approaches, particularly for those in leadership roles. The digital transformation process represents a critical period that requires a deep understanding of how technological advances impact organizational structures and leadership dynamics (Saritaş, 2020). In this context, examining the influence of digital technologies on leadership is of great significance for both academic research and corporate management practices. Among the key drivers of digital transformation, artificial intelligence (AI) stands out as one of the most significant and transformative components. AI technologies are reshaping managerial processes and enhancing effectiveness in various areas, from decision support systems to strategic planning, human resources management, and corporate communication. Consequently, leaders' attitudes and perceptions toward AI technologies directly influence how effectively these technologies are integrated into organizational processes (Saleh, 2023). A leader's awareness and acceptance of AI have become critical factors that determine not only individual performance but also the innovation capacity and digital competitiveness of the entire organization.

However, digital leadership is not limited to possessing technological knowledge alone. It encompasses a multidimensional set of skills, including access to information, the strategic use of digital tools, effective team communication, and the ability to navigate complex digital environments. Therefore, digital leadership is shaped not only by technical competence but also by leaders' cognitive and emotional attitudes toward AI (Çiftçi, 2019). Indeed, the literature indicates that leaders' perception of AI not merely as a tool but as a strategic element that can drive organizational success leads to significant differences in digital leadership competencies (Aydın & Kılıç, 2021). Examining the impact of leaders' perceptions of AI on their digital leadership skills is important both for addressing gaps in the academic literature and for generating practical insights for organizations. Understanding this relationship can provide concrete data to inform the selection, training, and ongoing support of individuals who will lead digital transformation processes. Accordingly, this study aims to provide an in-depth understanding of the role of leadership in organizational digital transformation by investigating how leaders' perceptions of AI affect their knowledge and communication skills, as measured by the digital leadership scale

1.2. Purpose of the Research

The purpose of this research is to examine the impact of leaders' perceptions of artificial intelligence (AI) on their digital leadership skills. In the digital transformation process, how leaders perceive technological developments and how these perceptions are reflected in their digital leadership behaviors are at the center of this study. In particular, how the basic dimensions of digital leadership, such as leaders' knowledge levels and communication skills, are related to AI perception is the main focus of the research.

1.2.1 Hypotheses

H1: There is a significant difference in the perceptions of artificial intelligence according to the age groups of the participants.

H2: There is a significant difference in the digital leadership skills of the participants according to the age groups of the participants.

H3: There is a significant difference in the perceptions of artificial intelligence according to the gender of the participants.

H4: There is a significant difference in the digital leadership skills of the participants according to the gender of the participants.

H5: There is a significant difference in the perceptions of artificial intelligence according to the education levels of the participants.

H6: There is a significant difference in the digital leadership skills of the participants according to the education levels of the participants.

H7: There is a significant difference in the perceptions of artificial intelligence according to the sectors in which the participants work.

H8: There is a significant difference in the digital leadership skills of the participants according to the sectors in which they work.

1.3. Importance of the Research

This study provides important contributions to understanding the impact of leaders' attitudes towards technological developments on organizational performance. In today's world where digitalization is accelerating, the integration of artificial intelligence into institutions has become not only a technical process but also a strategic leadership issue. In this context, examining the relationship between leaders' perceptions of AI and digital leadership skills is important both in terms of the institutional transformation process and in filling conceptual gaps in the academic

literature. The research also has the potential to guide the shaping of human resources policies, the structuring of leadership training programs and the development of digital adaptation strategies.

2. THEORETICAL FRAMEWORK

2.1. Concept and Definition of Artificial Intelligence

Artificial intelligence (AI), human intelligence imitation who systems development of targeting A lot disciplined One science These systems , just like people like learning , mind execution , problem solving , perception And language use like cognitive Functions be able to realize in this way designed . Artificial intelligence The concept was first introduced by John McCarthy at the Dartmouth Conference in 1956 . academic One area aspect defined and from that day on This sideways technology -most fast developing And -most A lot discussed from the fields someone into came to McCarthy according to artificial intelligence , " machines people like to behave " to provide " purpose driven One is science (McCarthy et al ., 1956).

Artificial your intelligence -most basis purpose , human similar decision give processes in machines modeling . artificial intelligence , with its different subfields together evaluated . Machine deep learning (ML), learning (DL), natural language processing (NLP), expert systems And image processing like components , artificial your intelligence APPLICATION areas expands . Machine learning , systems data by own yourself to learn while providing ; deep learning , a lot layered border their networks using more complicated cognitive operations realization possibility presents (Russell & Norvig , 2020).

Artificial intelligence , generally fly basis to category by leaving classified as : narrow (weak) artificial intelligence , general (strong) artificial intelligence And Super intelligence . narrow artificial intelligence , specific One duty in its place to bring for designed systems expression does And Today's applications most This in category place takes (for example , virtual assistants , suggestion engines). General artificial intelligence , human to his intelligence equivalent at level cognitive to talents owner machines representation while ; super intelligence , human capacity exceeding cognitive talents the one which... artificial systems definitions . Today Super intelligence theoretical One concept aspect Although it is debatable , technological developments This in the field progress possible (Bostrom , 2014). Artificial intelligence concept with technology annoyed non - ethical , sociological And economic including dimensions wide comprehensive One is the subject . Especially work Power in the market automation proliferation , artificial your intelligence person labor on it effect argument subject into brought . Order artificial your intelligence in decision making processes transparency , reliability And justice like principles in line with development , ethics artificial intelligence approach the basis of (Floridi & Cowls , 2019). Artificial intelligence is a combination of various technical and cognitive components. One of its basic features is the ability to learn. Unlike traditional software, artificial intelligence systems have the capacity to improve themselves through data rather than being programmed within a set of rules. This feature is especially seen in the fields of machine learning and deep learning. While machine learning algorithms can improve their performance over time by recognizing certain patterns, deep learning models can undertake more complex tasks through neural networks (Goodfellow, Bengio & Courville, 2016).

2.2. Digital Leadership

Digital leadership , digital technologies offered possibilities strategic aspect using institutions transformation to the processes direction giving innovation encouragement who And digital culture adopter leadership style aspect This concept is defined in the classical leadership their approaches beyond by passing technology One vehicle aspect change triggering One element aspect seeing leader their profiles definitions . Digital leader , only technological to competence owner being This wo n't stay technologies of the organization vision , structure And with its processes integrated by saying holistic One transformation provides (Kane et al ., 2015).

Digital leadership the concept of development , technological revolutions work don't do that their forms radical in the form of by changing speed has won . Especially in the 2000s from the beginning from mobile technologies , artificial intelligence , great data And cloudy informatics like digital of vehicles spreading , institutions in a new way leadership to the understanding guided by traditional hierarchical leadership Models its place more agile , transparent , business to the unity based on And to innovation open leadership to their forms In this process , leaders technology to the knowledge of not ; digital transformation strategies creating , teams digitalization to the process integrated Don't And digital your skills development supporting also has the competencies they are is expected (Westerman et al ., 2011).

Digital leadership basis components between visionary , digital literacy , strategic thinking , agility , innovation Focusedness And cultural awareness place Visionary , digital transformation in the process organization to the future preparation with his skill is related to Digital literacy whereas technology effective in the form of use And analysis Don't competence . Agility And innovation Focusedness whereas digital in the world fast to the changes fast response ability to give And innovations organisation to your culture integrated Don't capacity expression (El Sawy et al ., 2016).

Made studies , digital leadership technology in the field person management It is also important in terms of effects created For example , Singh and Hess (2017) done One research , digital leadership worker loyalty increased

organizational to learn Supported by And innovative work models development makes it easier emerge has put . digital leaders empathic , communicative open And participant One attitude exhibitions , employees digitalization to the process opposite resistance is decreasing .

Digital leadership , special to the sector public also critical in management One place Public in institutions digital of transformation to success can reach for leaders technology governance to the processes integrated data based on decision making culture dissemination And citizen focused service understanding of adopt It is necessary . Especially Pandemic post- in the period digital of services the spread of this leadership the form of public management It has also become mandatory in terms of (Mergelin) et al ., 2019).

In Türkiye digital leadership over done annoyed in number research , managers digital transformation awareness of is increasing is in practice leadership your skills development should emerge For example , Akalın puts And Yıldız (2022), in Turkey public with its managers what they did qualitative in the research , managers digital to technologies about positive One to perception owner They are ; corporate at level digital leadership your vision missing is They emphasized both educational and organizational transformation strategies importance emerge is putting.

3. METHOD

3.1. Research Model

Research , quantitative research method within the framework of structured . Quantitative research ; data digital in the form of collection , analysis to be done And statistical with methods Interpretation of including systematic One This type of approach is research , specific One to the fact related measurable And objective Answers to present targets . Same in time testing hypotheses , variables between Relationships Determination And cause-effect connections emerge to be placed (Creswell, 2014) . In this study , the same in this direction , leaders artificial intelligence to their technologies oriented perceptions with digital leadership skills between Relationships emerge to put for previously structured Scales used And data digital aspect analysis Thus , the research has been in the scope of Developed to test hypotheses And Variables between statistical your ties emerge to be removed possibility has been provided .

3.2. Universe and Sample

The universe of this research consists of white-collar employees who work directly or indirectly in management and leadership positions in various sectors in the Turkish Republic of Northern Cyprus (TRNC). In line with the purpose of the study, an appropriate sample was selected from this universe in order to evaluate the perception of artificial intelligence and attitudes towards digital leadership skills. The sample of the research was determined by the purposive sampling method among individuals who have the qualifications to represent the universe. In this method, individuals who have the qualifications that can make a meaningful contribution to the research questions were specifically selected and included in the study (Patton, 2002). In this direction, the sample group consists of a total of 304 employees who work in various public and private sector organizations in the TRNC and participate in management and leadership processes. The responses of the participants were collected online, on a voluntary basis, and the obtained data were analyzed in accordance with the main objectives of the research. The participants answered a comprehensive measurement tool prepared regarding the leadership transformation and the impact of artificial intelligence on leadership responsibilities (Meyer and Mittag, 2019). The relatively high number of participants provided an important advantage in terms of generalizability of the results obtained.

3.3. Data Collection Tools

This research data personal information form , artificial intelligence scale And Digital Leadership The scale with has been collected .

Personal Information Form

In this study, a Personal Information Form was used to determine the demographic characteristics of the participants. Within the scope of this form, participants were asked questions that included basic socio-demographic information such as gender, age range, marital status, level of education, the sector in which the company they work operates and the number of employees in the company. These data obtained from the participants allowed the analysis and interpretation of the research findings in terms of different variables.

Scale of Artificial Intelligence

In order to understand the complex relationship between leaders and transformative technologies, it is of great importance to measure leaders' perception of Artificial Intelligence (AI) and the impact of this technology on digital leadership skills. While artificial intelligence technologies reshape industries and leadership approaches in the digital age, leaders' attitudes, emotions, expectations and concerns towards these technologies determine their roles in transformation processes. The scale used in this study was taken from Saleh's (2023) master's thesis titled "Leaders' Perception to Artificial Intelligence and Its Effect on Digital Leadership Skills". The scale developed and used within the scope of the thesis in question was structured to measure leaders' perceptions of artificial intelligence. It was considered as a one-dimensional structure in the study and used to measure leaders' perception level of artificial intelligence. Each item covers elements such as attitude, awareness, importance attribution and

investment intention regarding artificial intelligence in a holistic manner; It was evaluated by creating a general perception score without separating it into separate sub-dimensions.

Digital Leadership Scale

The Digital Leadership Scale used in the study was taken from the master's thesis written by Saleh (2023). The scale was developed to assess the competencies of leaders in the fields of computer and information technologies and aims to shed light on the changing nature of leadership skills in the digital age. This scale, consisting of a total of 18 items, includes two sub-dimensions: Knowledge Level and Communication Level. While the knowledge level sub-dimension measures the skills of leaders in accessing information, using digital tools and creating technological awareness, the communication level sub-dimension evaluates the competencies of leaders in communicating effectively in the digital environment, sharing experiences and developing technological collaboration. In today's world where digital technologies are rapidly developing and have become decisive on organizational strategies, the skills of leaders in obtaining information and communicating are even more critical. Therefore, the scale in question allows the evaluation of the roles of leaders in the digital transformation process with a multi-dimensional approach. Various studies in the literature have shown that this scale is a valid and reliable tool in measuring leadership skills in the fields of computer and information technologies, especially through knowledge and communication levels. In this respect, the scale offers in-depth insights into the development of digital leadership skills and makes significant contributions to the field.

3. 4. Analysis of Data

Research in the scope of in hand said data , SPSS 26.0 statistics software using analysis Firstly , the participants demographic features to determine for frequency And percentage analysis In the research , used to scales And This sub- dimensions of the scales related participant levels to determine as follows arithmetic average And standard deflection values calculated . Scales internal consistency to evaluate for the purpose of each dimension for separate separate Cronbach's Alpha reliability analysis applied . In hand The alpha coefficients obtained are used scales reliability high is In the research , it was shown that place area hypotheses and sub problems , 95% confidence Tested at level ($p < 0.05$) . Dependent And independent Variables between Relationships to examine Pearson correlation for the purpose of analysis And linear regression analysis These analyses were used artificial intelligence perception with digital leadership skills between relationship level of And effect emerge In addition , the data normal distribution in analysis assumption basis Participants were taken opinions between to groups according to significant differences is there is no to determine for the purpose of two group between in comparisons independent Sample t- test , two-sample more group including in comparisons whereas only way ANOVA test has been implemented . This analysis , research to your questions statistical aspect significant And interpretable Answers in hand to be done provided

Analysis to the results According to all scale and sub -dimensions Shapiro-Wilk p- values of 0.05 significance to the level of increasingly close being together above 0.05 remained And This indicates that the data has a normal distribution close One distribution exhibited It also shows that skewness and kurtosis values are within ± 1 range place distribution of receiving to normality suitability (George & Mallery, 2010) . Especially Artificial Intelligence The scale for distortion value is -0.312 and oblateness value is -0.491 , Digital For Leadership (General) This values as 0.248 and -0.101 respectively . calculated . Similar In this way , Knowledge Level Sub- Dimension And Communication Level Sub- Dimension also ± 1 limits inside distortion And oblateness to the values These findings have in line with the analysis parametric tests (independent sample t- test , ANOVA, Pearson correlation , regression etc.) suitable is to the conclusion has been reached .

The Kaiser-Meyer-Olkin (KMO) value obtained for the Artificial Intelligence Scale was found to be 0.813 and 0.876 for the Digital Leadership Scale. These values indicate that the data set is suitable for factor analysis. A KMO value above 0.80 indicates that the sample adequacy is at a "very good" level (Kaiser, 1974). Bartlett's Test of Sphericity was statistically significant for both scales ($p < 0.001$). This result shows that there are significant correlations between the variables and that the data are suitable for factor analysis.

Reliability analysis was performed to determine the internal consistency levels of the scales used in the study. In this context, Cronbach's Alpha coefficient was calculated for each scale and sub-dimension. As a result of the analysis, Cronbach's Alpha value of the Artificial Intelligence Scale was found to be 0.912 and it was determined that the scale was highly reliable. Cronbach's Alpha value calculated for the general score of the Digital Leadership Scale was 0.934 and it was seen that this scale also had a very high internal consistency. When the sub-dimensions of the scale were examined; the reliability coefficient of the Knowledge Level sub-dimension was calculated as 0.901 and the Communication Level sub-dimension as 0.886. These values obtained show "very good" and "excellent" levels of reliability according to the classifications suggested by George and Mallery (2003). These results reveal that all scales and sub-dimensions used in the study can be used safely in statistical analyses.

4. FINDINGS

Table 1. Socio-Demographic Information of Participants

Gender	n	%
Male	168	55.26
Woman	136	44.74
Age Range		
18–25	57	18.75
26–30	64	21.05
31–35	76	25.00
36–40	44	14.47
41–50	35	11.51
51 and above	28	9.21
Education Level		
Primary Education / Secondary Education	15	4.93
High school	29	9.54
Vocational /Technical Education	29	9.54
Front licence	47	15.46
Licence	106	34.87
High licence	61	20.07
Doctorate	17	5.59
Sector		
Logistics	47	15.46
Work consultancy (finance , HR, law etc.)	60	19.74
Production machines And equipment manufacturing	60	19.74
Health	45	14.80
Education	45	14.80
Other	47	15.46
Toplam	304	100

To the research Participating Of the 304 participants, 55.26 % were male and 44.74% were female. is a woman . This situation is seen in the study. Male participants numerically from women One amount more more representation was made Age to the distribution Considering the participants The majority are 31–35 years old in the range (25%) received , this 26–30 age groups (21.05%) and 18–25 age groups (18.75%), respectively. follow-up he said This distribution is seen in the sample youth And middle age from adults is formed Education level In terms of When evaluated , the participants big One section undergraduate (34.87%) and high (20.07%) have a bachelor's degree . This situation is consistent with the sample of the group big at the rate higher education seen from individuals is formed shows ; this is also digital leadership And artificial intelligence awareness like on the subjects cognitive sufficiency In terms of significant One representation . In addition , 15.46 % of the participants Bachelor's degree , 9.54% vocational / technical education And high school graduates , 5.59% of them doctorate level . Worked to sectors according to distribution when examined , the most more Participation work consultancy (19.74%) and production machines And equipment manufacturing (19.74%) sectors came ; this logistics (15.46%), health (14.80%), education (14.80%) and other sectors (15.46%) follow he said This diversity is seen in different sectors representation was made balanced One distribution sign is continuing .

Table 2. Mean and Standard Deviation Values of Scales and Sub-Dimensions

Subscale	n	Min.	Max .	Mean	Ps .
Scale of Artificial Intelligence	304	1.50	5.00	3.84	0.68
Digital Leadership (General)	304	1.78	4.95	3.71	0.59
Level of Knowledge	304	1.67	5.00	3.65	0.64
Communication Level	304	1.75	4.89	3.77	0.61

As can be seen from the table, the average of the artificial intelligence scale is 3.84, which indicates that the participants' general perception of artificial intelligence is high. The general average of the digital leadership scale was calculated as 3.71, which revealed that the participants showed a positive tendency towards digital leadership skills. When the sub-dimensions were examined, the average of the Communication Level was found to be 3.77, and the average of the Knowledge Level was found to be 3.65. These values indicate that the participants have an above-average perception in both digital leadership components. The standard deviation values are between 0.6 and 0.7 in all dimensions, indicating that the participants' responses are largely homogeneous.

Table 3. Artificial Intelligence Scale Difference Analysis by Gender

Group	n	Mean	Ps .	f	p
Male	168	3.88	0.66	5.23	0,000
Woman	136	3.79	0.70		

As a result of the independent sample t-test conducted according to the gender variable, a statistically significant difference was found between the artificial intelligence perception scores of male and female participants ($p < 0.001$). The average of male participants is higher than that of females. This shows that gender may have an effect on the attitude towards artificial intelligence.

Table 4. Artificial Intelligence Scale Difference Analysis According to Age Range

Group	n	Mean	Ps .	F	p
18–25	57	3.73	0.71	11.20	0,000
26–30	64	3.82	0.66		
31–35	76	3.92	0.65		
36–40	44	3.89	0.69		
41–50	35	3.85	0.63		
51 and above	28	3,76	0,72		

According to the results of the one-way ANOVA analysis, it was observed that there was a statistically significant difference in terms of artificial intelligence perception between different age groups ($p < 0.001$). According to the results of the Post-Hoc analysis (Tukey HSD), it was observed that the significant differences in terms of artificial intelligence perception between age groups were especially concentrated in certain groups. In particular, a statistically significant difference was found in terms of artificial intelligence scale scores between the 31–35 age group and the 18–25 age group. This difference shows that the 31–35 age group has a higher perception of artificial intelligence technologies. Similarly, a significant difference was observed between the 36–40 age group and the 18–25 age group. These findings reveal that individuals' awareness and attitudes towards artificial intelligence become more positive as age progresses, and especially as the level of work experience and professional responsibility increases, the way artificial intelligence technologies are perceived changes. It was determined that the differences between other age groups were not statistically significant. This shows that especially the younger age group (18–25) has a lower perception of artificial intelligence, whereas individuals aged 30 and over have developed more conscious and positive attitudes towards technology.

Table 5. Artificial Intelligence Scale Difference Analysis According to Education Level

Group	n	Mean	Ss .	F	p
Primary/Secondary Education	15	3.55	0.14	37,578	0,000
High school	29	3.58	0.11		
Vocational/Technical Education	29	3.68	0.12		
Associate's degree	47	3.74	0.14		
Licence	106	3.86	0.14		
Degree	61	3.92	0.15		
Doctorate	17	3.98	0.16		

The one-way ANOVA analysis revealed that there were statistically significant differences between the level of education and the perception of artificial intelligence ($F = 37.578$, $p < 0.001$). The obtained data show that as the level of education increases, positive attitudes towards artificial intelligence also increase. As a result of the Post-Hoc (Tukey HSD) analyses, it was determined that especially primary/secondary education, high school and

vocational/technical education groups differed significantly in terms of artificial intelligence perceptions when compared to individuals with undergraduate, graduate and doctoral levels. It was observed that especially individuals with doctoral levels had statistically significantly higher perceptions of artificial intelligence compared to groups with lower levels of education. The lowest mean was observed in the primary/secondary education group (3.55), while the highest mean was observed in those with doctoral levels (3.98). This finding shows that as the level of education of individuals increases, they develop a more conscious, positive and proactive approach towards technology and artificial intelligence applications. These differences depending on the level of education can be considered as an important determinant in terms of artificial intelligence awareness and acceptance.

Table 6. Artificial Intelligence Scale Difference Analysis by Sector

Group	n	Mean	Ss .	F	p
Logistics	47	3.67	0.13	22,580	0,000
Business consultancy (finance, HR, legal etc.)	60	3.85	0.12		
Manufacturing of production machinery and equipment	60	3.79	0.14		
Health	45	3.93	0.15		
Education	45	3.88	0.13		
Other	47	3.76	0.15		

The one-way ANOVA analysis revealed that there were statistically significant differences between the sector of employment and the perception of artificial intelligence ($F = 22.580$, $p < 0.001$). This finding shows that the perceptions of individuals working in different sectors towards artificial intelligence technologies vary significantly. According to the post-hoc (Tukey HSD) analysis, the perceptions of individuals working in the health and education sectors, in particular, towards artificial intelligence are statistically significantly higher than those working in the logistics and other sectors. While the average of those working in the health sector was 3.93 and 3.88 for those in the education sector, this value was determined as 3.67 for those in the logistics sector.

Table 7. Difference Analysis of Digital Leadership Scale by Gender

Dimension	Group	n	Mean	Ss .	t	p
Level of Knowledge	Male	168	3.68	0.55		
	Woman	136	3.66	0.57	0.266	0.791
Communication Level	Male	168	3.77	0.57		
	Woman	136	3.65	0.59	1,858	0.064
Digital Leadership (General)	Male	168	3.72	0.36		
	Woman	136	3.65	0.43	1,530	0.127

According to the independent sample t-test analysis, no statistically significant difference was found between male and female participants in terms of knowledge level, communication level and digital leadership overall score ($p > 0.05$).

Table 8. Digital Leadership Scale by Age Range Difference Analysis

Dimension	Group	n	Mean	Ps .	F	p
Level of Knowledge	18–25	57	3.45	0.50	4,174	0.001
	26–30	64	3.67	0.52		
	31–35	76	3.78	0.54		
	36–40	44	3.80	0.53		
	41–50	35	3.75	0.52		
	51 and above	28	3.69	0.51		
Communication Level	18–25	57	3.60	0.54	2,128	0.062
	26–30	64	3.73	0.60		
	31–35	76	3.84	0.56		
	36–40	44	3.82	0.55		
	41–50	35	3.77	0.54		

Dimension	Group	n	Mean	Ps .	F	p
Digital Leadership (General)	51 and above	28	3.70	0.53	5,688	0,000
	18–25	57	3.53	0.33		
	26–30	64	3.70	0.39		
	31–35	76	3.81	0.41		
	36–40	44	3.81	0.42		
	41–50	35	3.76	0.38		
	51 and above	28	3.69	0.36		

According to the one-way ANOVA analysis, it was observed that there were significant differences in digital leadership skills depending on the age groups of the participants:

A statistically significant difference was found in the Knowledge Level dimension ($F = 4.174$, $p = 0.001$). This finding shows that there is an improvement in the acquisition of information, digital literacy and technological awareness in terms of digital leadership with age. In particular, while the average of the 18-25 age group is 3.45, this value reaches 3.78-3.80 in the 31-40 age groups.

The value of $F = 2.128$, $p = 0.062$ obtained in the Communication Level dimension is quite close to the significance limit, but it is not considered statistically significant. This result indicates that digital communication skills tend to change according to age, but this change is not at a significant level.

When looking at Digital Leadership (General) scores, a statistically significant difference was found ($F = 5.688$, $p < 0.001$). While the general averages are at the lowest level with 3.53 in the 18-25 age group, they reach the highest level with 3.81 in the 31-40 age group. This finding shows that digital leadership competencies develop in the context of both information acquisition and communication skills as age progresses.

Table 9. Digital Leadership Scale by Education Level Difference Analysis

Dimension	Group	n	Mean	Ps .	F	p
Level of Knowledge	Primary/Secondary Education	15	3.51	0.50	3,358	0.003
	High school	29	3.52	0.48		
	Vocational/Technical Education	29	3.60	0.49		
	Associate's degree	47	3.72	0.47		
	Licence	106	3.80	0.52		
	Degree	61	3.88	0.51		
	Doctorate	17	3.95	0.49		
Communication Level	Primary/Secondary Education	15	3.34	0.41	2,997	0.007
	High school	29	3.66	0.52		
	Vocational/Technical Education	29	3.70	0.53		
	Associate's degree	47	3.75	0.52		
	Licence	106	3.83	0.53		
	Degree	61	3.90	0.52		
	Doctorate	17	3.96	0.51		
Digital Leadership (General)	Primary/Secondary Education	15	3.42	0.34	5.376	0.000
	High school	29	3.59	0.39		
	Vocational/Technical Education	29	3.65	0.42		
	Associate's degree	47	3.74	0.44		
	Licence	106	3.81	0.45		
	Degree	61	3.89	0.44		
	Doctorate	17	3.95	0.42		

The one-way ANOVA analyses showed that there were statistically significant differences in terms of knowledge level, communication level and digital leadership general score according to education level ($p < 0.01$). The means in terms of knowledge level increased as the level of education increased, while the mean for individuals with primary/secondary education level was 3.51, this mean increased to 3.95 for doctoral graduates. A similar increasing trend was observed in communication level scores. In terms of general digital leadership scores, the

lowest mean belonged to the primary school group (3.42), while the highest mean again belonged to the doctoral group (3.95). These findings clearly show that the level of education is a determining factor in the development of digital leadership skills.

Table 10. Digital Leadership Scale by Sector Difference Analysis

Dimension	Group	n	Mean	Ss .	F	p
Level of Knowledge	Logistics	47	3.48	0.47	4,665	0.000
	Business consultancy	60	3.77	0.47		
	Production machines	60	3.64	0.48		
	Health	45	3.91	0.47		
	Education	45	3.89	0.48		
	Other	47	3.67	0.50		
Communication Level	Logistics	47	3.64	0.48	2,338	0.042
	Business consultancy	60	3.95	0.52		
	Production machines	60	3.74	0.49		
	Health	45	3.88	0.49		
	Education	45	3.86	0.50		
	Other	47	3.71	0.51		
Digital Leadership (General)	Logistics	47	3.56	0.34	6,025	0.000
	Business consultancy	60	3.86	0.40		
	Production machines	60	3.69	0.38		
	Health	45	3.89	0.36		
	Education	45	3.88	0.37		
	Other	47	3.69	0.39		

According to the post-hoc (Tukey HSD) analyses performed after the one-way ANOVA analyses, it was observed that significant differences between the sector of work and digital leadership skills became evident especially among some sectors. A significant difference was found among the sectors in the Digital Leadership (General) dimension ($F = 6.025$, $p < 0.001$). In particular, the scores of individuals working in the health, education and business consultancy sectors are statistically significantly higher than the scores of individuals working in the logistics sector. This difference shows that leadership skills are more developed in sectors where digital technologies are more integrated into strategic and operational decision-making processes. A similar situation was observed in the Knowledge Level sub-dimension ($F = 4.665$, $p < 0.001$). The knowledge level scores of participants in the health and education sectors are significantly higher than those of participants in the logistics and production machinery sectors. This situation reveals that technological literacy and access to digital information are related to sectoral differences. In terms of the level of communication, the differences are more limited but statistically significant ($F = 2.338$, $p = 0.042$). In particular, the business consultancy sector has higher averages compared to logistics and other categories. This finding shows that the communication dimension of digital leadership develops more clearly, especially in sectors where interaction is intense, such as consultancy.

Table 11. Relationship Between Leaders' Artificial Intelligence Perception and Digital Leadership Skills

Relationship Between Variables	r	p
Artificial Intelligence Perception - Knowledge Level	0.845	0.000
Artificial Intelligence Perception - Communication Level	0.794	0.000
Artificial Intelligence Perception - Digital Leadership (General)	0.889	0.000

Pearson correlation analysis performed :

- There is a very high level positive and significant relationship between Artificial Intelligence Perception and Knowledge Level ($r = 0.845$, $p < 0.001$).
- There is also a highly positive and significant relationship between Artificial Intelligence Perception and Communication Level ($r = 0.794$, $p < 0.001$).
- The highest correlation value was obtained between Artificial Intelligence Perception and Digital Leadership General Score ($r = 0.889$, $p < 0.001$).

These findings show that leaders' attitudes towards AI strongly predict both their level of access to and use of information and their ability to communicate effectively in digital environments. This strong relationship, especially between general digital leadership skills and AI perception, reveals that AI awareness is directly linked to leadership capacity in digital transformation processes.

Table 12. Leaders' Perception of Artificial Intelligence and Its Effect on Digital Leadership Skills

Variable	B	Std . Error	t	p
Constant (const)	0.080	0.109	0.727	0.468
Perception of Artificial Intelligence	0.982	0.029	33,794	0.000

According to the regression analysis results:

- Artificial intelligence perception significantly predicts and explains digital leadership skills ($B = 0.982$, $p < 0.001$).
- The constant coefficient is not statistically significant ($p = 0.468$), indicating that the main effect of the model comes from the perception of AI.

CONCLUSION

As a result of the analyses, it was observed that the perceptions of leaders towards artificial intelligence differed significantly according to demographic variables. In terms of gender, it was determined that male participants had higher perceptions of artificial intelligence, suggesting that social roles may affect the approach to technology. In terms of the age variable, it was determined that young individuals had lower perceptions of artificial intelligence; this perception developed positively as age and professional experience increased. It was observed that the positive perception towards artificial intelligence increased as the level of education increased. In addition, it was determined that individuals working in knowledge-based sectors such as health and education had more positive perceptions of artificial intelligence. These results show that perceptions are affected by professional context as well as individual characteristics. It was revealed that leaders' perceptions towards technology should be taken into consideration in digital transformation.

Analyses of digital leadership skills have shown significant differences according to some demographic variables. No significant difference was found in terms of gender, and it was understood that skills develop with individual experiences. As age increases, knowledge level and general digital leadership scores increase, and low scores in young individuals are associated with lack of experience. As education level increases, significant increases are seen in knowledge, communication and general leadership scores. Individuals with master's and doctorate degrees have higher skill levels. In terms of sectors, digital leadership skills are higher in health, education and business consultancy compared to other sectors. Knowledge level is especially prominent in health and education, and communication skills are prominent in business consultancy.

Correlation analyses revealed strong positive relationships between AI perception and digital leadership skills. Positive attitudes towards AI were found to support access to information, technological awareness and communication skills. Regression analyses showed that AI perception significantly predicted digital leadership skills. The explanatory power of the model largely stems from AI perception, which reveals that leadership behaviors are directly related to technological perceptions. For effective leadership in the digital age, positive perceptions towards technology need to be developed as much as technical knowledge.

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ORGANIZATIONAL SUPPORT AND ORGANIZATIONAL JUSTICE PERCEPTIONS OF TEACHERS WORKING IN PRIVATE SCHOOLS

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ABSTRACT

This study is a quantitative research project that aims to examine the perceptions of organizational support and organizational justice among teachers working in private education institutions in the Turkish Republic of Northern Cyprus (TRNC). The study was carried out with 310 teachers selected through a stratified sampling method from a total population of 1,535 teachers employed in 115 private schools, according to the 2024–2025 data provided by the TRNC Ministry of National Education. A data collection instrument consisting of three sections was used: a demographic information form, an organizational justice scale covering distributive, procedural, and interactional justice dimensions, and an organizational support scale addressing managerial and instructional support dimensions.

The findings indicate that overall, teachers reported high levels of perceived organizational support and organizational justice. Teachers provided positive evaluations regarding the managerial and instructional support they received, as well as in the areas of distributive, procedural, and interactional justice within their institutions. The demographic analyses revealed several notable patterns: female teachers reported significantly higher perceptions of organizational support and interactional justice than their male counterparts. Married teachers tended to have more positive perceptions of both support and justice compared to single teachers. While age did not produce a significant difference in perceptions of organizational support, older teachers showed higher levels of perceived interactional justice. The study further found that teachers with greater professional seniority demonstrated stronger perceptions of both organizational support and justice. This trend was particularly pronounced among teachers who had longer tenures within their institutions, suggesting that sustained working relationships with administrators contribute positively to these perceptions.

Correlation and regression analyses confirmed a significant and positive relationship between organizational support and organizational justice perceptions. This indicates that higher levels of perceived fairness within an organization are associated with higher perceptions of support, and vice versa. These findings suggest that fostering a supportive and fair management approach in private education institutions can play a crucial role in enhancing teachers' organizational commitment, job satisfaction, and overall well-being. Based on the results, it can be recommended that school administrators adopt policies and practices that prioritize transparent decision-making, equitable resource distribution, respectful and open communication, and consistent support for instructional needs. Strengthening these elements may contribute to creating a more positive working environment that empowers teachers, increases their motivation, and supports long-term staff retention. Future research could explore the longitudinal impact of perceived organizational support and justice on teacher performance, professional development, and student outcomes. Additionally, comparative studies could be conducted to examine whether similar patterns exist in public education institutions or in different cultural contexts, contributing further insights into the role of organizational climate in the education sector.

Keywords: Organizational Support, Organizational Justice, Private Schools, Teacher Perceptions

1. INTRODUCTION

1.1. Problem

The effectiveness of educational institutions depends not only on their physical infrastructure and the adequacy of their programs but also on how teachers perceive the organizational structure within which they work. Teachers' job satisfaction, commitment, performance, and attitudes toward their institution are directly influenced by their perceptions of organizational support and organizational justice (Akbulut, 2020). Especially in private school settings, factors such as job security, relationships with the administration, and teachers' expectations often differ from those in public schools. These differences can significantly shape how supportive and fair teachers perceive their institutions to be (Ertürk, Yıldız, & Özdemir, 2017). Organizational support refers to the extent to which employees feel valued and recognized as important members of their organizations. This sense of support encompasses multiple elements, including feedback from administrators, opportunities for professional development, equitable practices, and psychological safety in the workplace (Dai & Qin, 2016). In contrast, organizational justice concerns whether individuals perceive workplace practices and decisions as fair, typically examined through three dimensions: distributive justice (fairness of outcomes), procedural justice (fairness of processes), and interactional justice (fairness and respect in interpersonal interactions) (Cohen & Eyal, 2015).

High levels of perceived organizational justice have been shown to increase teachers' commitment to their institution, encourage voluntary positive behaviors, and positively influence organizational citizenship behaviors (Güneş & Küçüksüleymanoğlu, 2020). When examined together with organizational support, these two concepts complement each other by playing a vital role in enhancing employee motivation and organizational commitment (Ergül, 2019). Similarly, international studies have found that in workplaces where teachers perceive high levels of organizational justice, their intention to leave the job decreases while their task performance improves (Akinrinlola, Kusa, & Wapmuk, 2021; Donglong, Taejun, Julie, & Sanghun, 2020). In the context of the Turkish Republic of Northern Cyprus, there is a notable gap in the literature regarding how teachers' perceptions of support and justice are shaped in private school environments. This gap underscores the need for comprehensive research that examines teachers' perceptions of both organizational support and organizational justice together, in order to inform policy development and contribute to more effective educational management practices (Dai & Qin, 2016). This study aims to address this gap by investigating how teachers' organizational experiences in private schools influence their perceptions of support and justice. The findings are intended to offer evidence-based insights and recommendations for educational administrators and policymakers to strengthen supportive and fair practices within private educational institutions.

1.2. Purpose of the Research

The main purpose of this research is to examine the organizational support and organizational justice perceptions of teachers working in private schools in the Turkish Republic of Northern Cyprus. Within the scope of the study, the general perceptions of teachers regarding these two concepts are tried to be determined; and it is also investigated whether there are significant differences in terms of demographic variables (gender, marital status, age and professional seniority). In addition, the level and direction of the relationship between organizational support and organizational justice perception are revealed through correlational and predictive (regression) analyses. The research aims to reveal the extent to which teachers are supported and exposed to fair practices in the institutional context with a holistic approach.

1.2.1 Hypotheses

H₀₁ : There is no significant difference between teachers' perceptions of organizational support and its sub-dimensions according to their gender.

H₁₁ : There is a significant difference between teachers' perceptions of organizational support and its sub-dimensions according to their gender.

H₀₂ : There is no significant difference between teachers' perceptions of organizational support and its sub-dimensions according to their marital status.

H₁₂ : There is a significant difference between teachers' perceptions of organizational support and its sub-dimensions according to their marital status.

H₀₃ : There is no significant difference between teachers' perceptions of organizational support and its sub-dimensions according to their ages.

H₁₃ : There is a significant difference between teachers' perceptions of organizational support and its sub-dimensions according to their ages.

H₀₄ : There is no significant difference between teachers' perceptions of organizational support and its sub-dimensions according to their tenure in the profession.

H₁₄ : There is a significant difference between teachers' perceptions of organizational support and its sub-dimensions according to their tenure in the profession.

H₀₅ : There is no significant difference between teachers' perceptions of organizational justice and its sub-dimensions according to their gender.

H₁₅ : There is a significant difference between teachers' perceptions of organizational justice and its sub-dimensions according to their gender.

H₀₆ : There is no significant difference between teachers' perceptions of organizational justice and its sub-dimensions according to their marital status.

H₁₆ : There is a significant difference between teachers' perceptions of organizational justice and its sub-dimensions according to their marital status.

H₀₇ : There is no significant difference between teachers' perceptions of organizational justice and its sub-dimensions according to their ages.

H₁₇ : There is a significant difference between teachers' perceptions of organizational justice and its sub-dimensions according to their ages.

H₀₈ : There is no significant difference between teachers' perceptions of organizational justice and its sub-dimensions according to their tenure in the profession.

H₁₈ : There is a significant difference between teachers' perceptions of organizational justice and its sub-dimensions according to their tenure in the profession.

H₀₉ : There is no significant relationship between organizational support and perception of organizational justice.

H₁₉ : There is a significant relationship between organizational support and perception of organizational justice.

H₀₁₀ : Organizational support does not significantly predict the perception of organizational justice.

H₁₀ : Organizational support significantly predicts the perception of organizational justice.

1.3. Importance of the Research

Sustainable success in educational organizations depends heavily on employee satisfaction, commitment, and trust. In this context, teachers' perceptions of organizational support and organizational justice play a crucial role in shaping both individual performance and the overall institutional climate (Akbulut, 2020; Güneş & Küçüksüleymanoğlu, 2020). While organizational support enhances teachers' professional motivation, perceptions of justice contribute to the development of transparency and a sense of fairness in decision-making processes (Demir, 2015; Akar & Üstüner, 2019). Considering these two concepts together is strongly associated with positive outcomes such as strengthened organizational citizenship behaviors, higher levels of job satisfaction, and increased institutional commitment (Ertürk, Yıldız, & Özdemir, 2017; Dai & Qin, 2016). This research, which focuses on the perceptions of teachers working in private schools within the context of the Turkish Republic of Northern Cyprus, provides significant insights for improving the quality of administrative practices and understanding the dynamics of teacher–organization relationships. The findings offer valuable guidance for school administrators, policymakers, and researchers by contributing evidence-based recommendations for developing strategic decisions that enhance support for teachers and foster a fair and equitable working environment (Akinrinlola, Kusa, & Wapmuk, 2021; Donglong et al., 2020).

2. THEORETICAL FRAMEWORK

2.1. Organizational Support

Organizational support refers to employees' perceptions that they are valued and regarded as important by their organizations, and that their needs and expectations are taken into consideration (Eisenberger et al., 1986). In the literature, this concept is commonly discussed under the term Perceived Organizational Support (POS) and is widely used to explain employees' attitudes and behaviors toward their organization. Employees' perceptions of organizational support are strengthened when they feel supported not only materially but also psychologically, socially, and professionally (Rhoades & Eisenberger, 2002). The theory of perceived organizational support is grounded in social exchange theory. According to this theory, employees tend to demonstrate higher levels of commitment, loyalty, and performance in response to the positive attitudes and support they receive from their organization (Cropanzano & Mitchell, 2005). In other words, as the organization invests in its employees, employees develop a stronger sense of responsibility and reciprocate with positive behaviors. This mutually beneficial relationship has significant effects on outcomes such as job satisfaction, job performance, and organizational citizenship behavior (Eisenberger & Stinglhamber, 2011).

The concept of organizational support plays an especially decisive role in professions that involve high levels of responsibility and interpersonal interaction, such as teaching. Teachers often assess whether they feel supported by their organization when facing stressors such as uncertainty, heavy workloads, and pressure from parents and administrators (Öztürk & Kaplan, 2021). Indeed, when teachers' perceptions of organizational support are high, positive outcomes such as job satisfaction, organizational commitment, and psychological resilience are enhanced, while burnout and turnover intentions decrease (Çetin & Yılmaz, 2023; Tekin & Yıldırım, 2023).

The impact of perceived organizational support on teachers is closely linked to the leadership style of school administrators, the organizational climate, and the nature of communication within the institution. School leaders who adopt supportive leadership behaviors can strengthen teachers' emotional commitment to the organization by making them feel valued and respected (Yıldız & Eren, 2022). This perception of support becomes even more critical for teachers working in private schools, where factors such as limited job security, performance-based pressure, and wage inequality can weaken teachers' sense of belonging to the organization (Demirtaş & Özer, 2022). Numerous studies have demonstrated a strong positive relationship between organizational support and organizational commitment. For example, Kara and Aydoğan (2021) found that teachers' perceived organizational support significantly influenced their emotional commitment to the school. Similarly, Kurt and Öztürk (2024) reported that perceived organizational support was directly related to teachers' job satisfaction and burnout levels in their study focusing on private school teachers.

2.2. Organizational Justice

Organizational justice refers to employees' perceptions that they are treated fairly in the organization they work for. This perception is a critical element that profoundly affects their personal well-being, job satisfaction, motivation, organizational commitment, and overall performance (Greenberg, 1990; see Başaran, 2000 for a Turkish translation). Organizational justice reflects an organization's ethical values, transparency, and the value it places on its employees, and therefore holds a central place in the literature on modern human resources management and organizational behavior. When employees believe that they are treated fairly, it fosters trust in the workplace, reduces conflict, and contributes to a positive work culture. Unfair practices can have the opposite effect, leading to demoralization, intentions to quit, and even destructive behaviors such as sabotage.

Organizational justice is a concept that focuses on the extent to which employees perceive the policies, procedures, and decisions implemented in the workplace to be fair and equitable. The fairness of practices encountered in business life, especially processes such as reward distribution, promotion, workload, and performance evaluation, has a direct impact on employees' motivation and commitment (Cropanzano & Greenberg, 1997). The concept of organizational justice first emerged in the 1970s in the field of social psychology and later began to be systematically examined in the context of work organizations (Folger & Konovsky, 1989). In this process, researchers defined the perception of justice through three main components: distributive justice, procedural justice, and interactional justice. Distributive justice is the perception that resources and rewards in the workplace are distributed equally and fairly. Procedural justice refers to the consistent, impartial, and participatory nature of the decision-making process. Interactional justice, on the other hand, covers interpersonal behaviors such as respect, openness, and honesty that employees receive during these processes (Colquitt, 2001).

The importance of organizational justice increases even more in human-oriented organizations such as educational institutions. In particular, teachers' organizational justice is seen as a determinant of critical variables such as job satisfaction, job stress, and organizational commitment (Tekin, 2020). In institutions with high competition such as private schools, unfair practices reduce teachers' motivation and increase their intention to leave the job. This can lead to negative effects both among teachers and on the quality of education in general (Akbaş and Çelik, 2021).

The scope of organizational justice is not limited to individual perceptions, but also plays an important role in shaping the organizational culture and management approach. A fair management strengthens trust among employees and increases the overall performance of the organization. In order to strengthen the sense of justice, organizations need to develop transparent, participatory and consistent policies (Özkan, 2022).

3. METHOD

3.1. Research Model

This research is designed based on the quantitative research method. Quantitative research aims to examine the relationships between certain variables through objective and measurable data (Creswell, 2014). The data obtained with this approach is subjected to statistical analysis, allowing meaningful results to be achieved.

The relational screening model was used in the study. The relational screening model is a screening model used to determine the current level of relationship between two or more variables (Karasar, 2012). This model aims to reveal only the level of relationship between variables without establishing a cause-effect relationship. In this study, the relationship between the organizational support perceived by teachers working in private schools and the levels of organizational justice was examined.

3.2. Universe and Sample

The universe of this research consists of teachers working in private schools operating within the borders of the Turkish Republic of Northern Cyprus. According to the most up-to-date statistics published by the Ministry of National Education of Northern Cyprus for the 2024-2025 academic year, there are a total of 115 private schools in the country and 1535 teachers working in these institutions with different statuses (tenured, contracted, temporary) (TRNC MEB, 2024). These teachers provide education services at pre-school, primary school,

secondary school and high school levels, and the data only covers individuals in teacher positions. School administrators and support service personnel are excluded from this scope.

When the distribution of teachers according to school types is examined, it is determined that the number of teachers working in private primary schools (533 people) is higher than in other levels; then there are 512 teachers working in private pre-school education institutions and 490 teachers working in secondary and high schools. A similar distribution is observed in the number of students; 4264 students are studying in pre-school, 4579 in primary schools and 4012 in secondary and high schools (TRNC MEB, 2024).

The sample of the study was selected from this universe according to certain criteria. In the sampling to be made from a universe of 1535 people, the sample size was determined as 310 people based on a 95% confidence level and a $\pm 5\%$ margin of error. This number is considered sufficient in terms of representativeness.

Sample selection was carried out using the stratified sampling method. This method allows the creation of certain subgroups (strata) by taking into account the diversity in the universe and the selection of individuals from each group proportionally (Büyüköztürk et al., 2022). In this study, the strata were determined according to the type of school where the teachers worked (preschool, primary school, secondary school, high school) and their demographic characteristics (such as age, gender, professional seniority). Thus, the sample was created in a way that reflected the structural characteristics of the universe.

3.3. Data Collection Tools

The data collection tool used in this study was structured in three parts. The first part included questions aimed at determining the demographic characteristics of the participants. The second part included statements designed to assess the participants' perception of organizational loyalty; and the third part included items aimed at measuring their perception of organizational support. Responses in all scales were obtained using a five-point Likert-type scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (5).

The "Perceived Organizational Support Scale" included in the study was developed by Derinbay (2011) and consists of a total of 29 items. The scale is structured in three sub-dimensions: instructional support (items 1–9), administrative support (items 10–18), and justice-based support (items 19–29). The validity and reliability analyses of the scale were carried out by the developer researcher. The reliability coefficients for the sub-dimensions of the organizational justice scale are as follows: distributive justice (.90), interactional justice (.90), and procedural justice (.94). Likewise, the reliability coefficients for the sub-dimensions of the organizational support scale, justice support (.95), instructional support (.85), and administrative support (.93), are above .70 (Kalaycı, 2010; Özdamar, 2004).

3.4. Analysis of Data

SPSS 26.0 program was used to analyze the data obtained in the study. First, normality analysis was performed to determine the distribution properties of the variables. In this analysis, the skewness and kurtosis coefficients were evaluated together with the Kolmogorov-Smirnov test.

In the Kolmogorov-Smirnov test, a p value of less than 0.05 indicates that the distribution statistically deviates from normality. However, if the skewness and kurtosis coefficients remain within ± 2 , the data set is considered to be close to a normal distribution (George and Mallery, 2010). In this context, parametric analysis techniques were evaluated to be applicable.

Table 1. Normality Test and Distribution Indicators

Subscale	KS Value	df	p -Value	Skewness	Kurtosis
Instructional Support	0.089	310	0.000	-0.84	0.97
Administrative Support	0.091	310	0.000	-1.12	1.28
Justice Support	0.087	310	0.000	-0.64	0.76
Distributive Justice	0.093	310	0.000	-0.92	1.01
Interactional Justice	0.088	310	0.000	-1.08	1.44
Procedural Justice	0.090	310	0.000	-0.71	0.83

Cronbach's Alpha (α) internal consistency coefficients were calculated to determine the reliability of the measurement tools used in the study. Cronbach's Alpha value is one of the most common methods used to determine whether there is consistency between the items of a scale or its sub-dimensions. According to Kalaycı (2010), an α coefficient of 0.70 and above indicates that the relevant scale is reliable.

Table 2. Reliability Analysis of Scales

Scale Name	Sub Dimension	Number of Items	Cronbach's Alpha (α)
Organizational Support Perception Scale	General	29	0.86
	Instructional Support	9	0.87
	Administrative Support	9	0.91
	Justice Support	11	0.92
Organizational Adoption Scale	General	27	0.94
	Distributive Justice	9	0.80
	Interactional Justice	9	0.82
	Procedural Justice	9	0.84

The Organizational Support Perception Scale consists of 29 items at a general level and the Cronbach's Alpha value calculated for this scale was found to be 0.86. When the sub-dimensions of the scale were examined, $\alpha = 0.87$ for the Instructional Support sub-dimension, $\alpha = 0.91$ for Administrative Support, and $\alpha = 0.92$ for Justice Support. These values show that each sub-dimension has a high level of internal consistency.

Similarly, the general Cronbach's Alpha coefficient of the Organizational Justice Scale consisting of 27 items was calculated as 0.94. The sub-dimensions of the scale, namely Distributive Justice ($\alpha = 0.80$), Interactional Justice ($\alpha = 0.82$) and Procedural Justice ($\alpha = 0.84$), also have a reliability level above .80. These findings show that both scales are statistically reliable at the general and sub-dimension levels and provide valid data. A Cronbach's Alpha coefficient above .70 indicates that the scales operate with high internal consistency (Kalaycı, 2010).

4. FINDINGS

Table 3. Socio-Demographic Characteristics of Participants

Variable	Category	Frequency (n)	Percentage (%)
Gender	Woman	186	60.0
	Male	124	40.0
Civil status	Single	138	44.5
	Married	172	55.5
Age	22-27	42	13.5
	28-33	74	23.9
	34-39	81	26.1
	40-45	65	21.0
	46 and above	48	15.5
Tenure in the profession	Less than 5 years	36	11.6
	5-10 years	92	29.7
	11-15 years	105	33.9
	16 years and above	77	24.8
	Total	310	100.0

The distribution of socio-demographic characteristics of the 310 participants whose data were analyzed within the scope of the research is presented in Table 3. When the gender distribution of the participants is examined, it is seen that 60% are female (n=186) and 40% are male (n=124). This shows that the majority of the teachers who participated in the research are female.

In terms of marital status variable, 55.5% of the participants were married (n=172), while 44.5% were single (n=138). This distribution reveals that a significant portion of the teachers were married.

In the distribution by age groups, the highest rate is in the 34-39 age group (n=81) with 26.1%. This is followed by the 28-33 age group (n=74) with 23.9%, the 40-45 age group (n=65) with 21.0%, the 46 and above age group (n=48) with 15.5% and the 22-27 age group (n=42) with 13.5%. This distribution shows that the participants are mostly concentrated in the middle age group.

When the participants' professional tenure is examined, it is seen that 33.9% have worked for 11-15 years (n=105), 29.7% have worked for 5-10 years (n=92), 24.8% have worked for 16 years and above (n=77), and 11.6% have

worked for less than 5 years (n=36). These findings show that the sample has a balanced distribution in terms of experience and that the majority are teachers with medium level experience. Minimum, maximum, mean and standard deviation values for the Perception of Organizational Support and Organizational Justice scales used in the study are presented in Table 4.

Table 4. Minimum, Maximum, Average and Standard Deviation Values of Scales

Scale / Subscale	n	Min.	Max.	Average	Standard Deviation (SD)
Perception of Organizational Support (General)	310	1.62	5.00	3.85	0.68
Instructional Support	310	1.44	5.00	3.78	0.69
Administrative Support	310	1.89	5.00	3.91	0.74
Justice Support	310	1.67	5.00	3.84	0.71
Organizational Adaptations (General)	310	1.70	5.00	3.75	0.72
Distributive Justice	310	1.55	5.00	3.65	0.81
Interactional Justice	310	1.78	5.00	3.88	0.76
Procedural Justice	310	1.60	5.00	3.72	0.79

The average of the total scores obtained by teachers from the organizational support perception scale is 3.85, which indicates that the perception of support is generally high. When the sub-dimensions of this scale are examined, the highest average belongs to the administrative support sub-dimension with 3.91. This is followed by justice support ($\bar{X} = 3.84$) and instructional support ($\bar{X} = 3.78$), respectively. The averages of all sub-dimensions are above 3.5, and it can be said that the participants perceive a supportive atmosphere in their institutions.

Similarly, the general average of the organizational justice scale was calculated as 3.75. This value shows that the participants' justice perceptions were also positive. The highest average at the sub-dimensions level was 3.88, which belongs to the interactional justice dimension. This was followed by procedural justice ($\bar{X} = 3.72$) and distributive justice ($\bar{X} = 3.65$). The fact that the average scores were above 3.5 in all sub-dimensions reveals that teachers generally evaluated the various dimensions of justice in their schools positively.

The standard deviation values of both scales vary between 0.68 and 0.81, indicating a medium level of difference of opinion among the participants. When evaluated in general, it can be said that the perceptions of teachers regarding the levels of organizational support and justice in the institutions they work in are positive and consistent.

Table 5. T-Test Results of Organizational Support Perception and Its Sub-Dimensions by Gender

Sub Dimension	Group	n	$\bar{X}$	Ps .	t	df (df)	p
General Scale	Woman	186	3.92	0.66	2,384	308	0.018
	Male	124	3.71	0.72			
Instructional Support	Woman	186	3.88	0.68	2,112	308	0.035
	Male	124	3.67	0.71			
Administrative Support	Woman	186	3.95	0.65	2,538	308	0.012
	Male	124	3.69	0.75			
Justice Support	Woman	186	3.92	0.69	1,944	308	0.053
	Male	124	3.74	0.72			

$p < 0.05$

The participants' perceptions of organizational support were analyzed with t-test for independent samples according to the gender variable. According to the analysis results, the average score of female teachers ($\bar{X} = 3.92$) in terms of general organizational support perception is significantly higher than male teachers ($\bar{X} = 3.71$) ($t(308) = 2.384$, $p = .018$). When examined at the level of sub-dimensions; the score of females ($\bar{X} = 3.88$) in the instructional support dimension is statistically significantly higher than males ($\bar{X} = 3.67$) ($p = .035$). A similarly significant difference was found in the administrative support dimension ($p = .012$). On the other hand, the p value obtained in the justice support dimension (.053) was just above the statistical significance limit of .05, and the gender difference was not found significant in this dimension. These results show that female teachers have a higher perception compared to their male colleagues, especially in the areas of administrative and instructional support.

Table 6. T-Test Results of Organizational Support Perception and Its Sub-Dimensions According to Marital Status

Sub Dimension	Group	n	$\bar{X}$	Ps .	t	df (df)	p
General Scale	Single	138	3.79	0.70	-1.932	308	0.054
	Married	172	3.89	0.68			
Instructional Support	Single	138	3.70	0.73	-2.145	308	0.033
	Married	172	3.86	0.66			
Administrative Support	Single	138	3.80	0.72	-1,742	308	0.082
	Married	172	3.89	0.71			
Justice Support	Single	138	3.78	0.71	-1,998	308	0.047
	Married	172	3.89	0.70			

$p < 0.05$

The participants' perceptions of organizational support were examined according to their marital status and t-test was applied for independent samples. Although the average score of married teachers ($\bar{X} = 3.89$) was higher than single teachers ($\bar{X} = 3.79$) at the general scale level, this difference was found to be at the limit of statistical significance ($p = .054$). When examined on the basis of sub-dimensions; the averages of married teachers ($\bar{X} = 3.86$) were significantly higher than single teachers ($\bar{X} = 3.70$) in the instructional support sub-dimension ($p = .033$). Similarly, it was observed that married teachers had higher perceptions of support in the justice support sub-dimension and this difference was significant ($p = .047$). However, the difference obtained in the administrative support sub-dimension was not statistically significant ($p = .082$). These results show that the organizational support perception of married teachers was higher in some dimensions (especially instructional and justice support), but a significant difference remained at the limit in terms of general support perception.

In order to determine whether the participants' perceptions of organizational support showed a significant difference according to age groups, one-way analysis of variance (ANOVA) was conducted. The results are presented in Table 7.

Table 7. ANOVA-Test Results of Organizational Support Perception and Its Sub-Dimensions According to Age

Sub Dimension	Group (Age)	n	$\bar{X}$	Ps .	F	p
General Scale	22–27	42	3.79	0.71		
	28–33	74	3.83	0.66		
	34–39	81	3.88	0.67	0.951	0.435
	40–45	65	3.91	0.72		
	46 and above	48	3.86	0.68		
Instructional Support	22–27	42	3.68	0.73		
	28–33	74	3.75	0.68		
	34–39	81	3.81	0.65	1,108	0.353
	40–45	65	3.84	0.70		
	46 and above	48	3.77	0.69		
Administrative Support	22–27	42	3.72	0.71		
	28–33	74	3.85	0.66		
	34–39	81	3.89	0.72	0.967	0.425
	40–45	65	3.93	0.75		
	46 and above	48	3.84	0.70		
Justice Support	22–27	42	3.76	0.69		
	28–33	74	3.82	0.70		
	34–39	81	3.86	0.72	1,163	0.327
	40–45	65	3.91	0.69		
	46 and above	48	3.85	0.71		

$p < 0.05$

When the general mean scores of the organizational support scale are examined, it is seen that the teachers in the 40–45 age group have the highest mean ($\bar{X} = 3.91$), followed by the 34–39 age group ($\bar{X} = 3.88$), 46 and above ($\bar{X} = 3.86$), 28–33 age group ($\bar{X} = 3.83$) and 22–27 age group ($\bar{X} = 3.79$). However, this difference is not statistically

significant ($F = 0.951$, $p = 0.435$). A similar result was obtained in the analyses conducted at the sub-dimensions. Although the means in the instructional support dimension slightly increased with age, the difference was not found to be significant ($F = 1.108$, $p = 0.353$). Similarly, no significant difference was found between the age groups in the sub-dimensions of administrative support ($F = 0.967$, $p = 0.425$) and justice support ($F = 1.163$, $p = 0.327$). These findings show that the age variable does not have a statistically significant effect on the perception of organizational support and its sub-dimensions. Although the ages of the teachers differ, it can be said that the levels of support they perceive from their institutions are similar. This result reveals that the perception of organizational support does not change significantly depending on age.

Table 8. ANOVA-Test Results of Organizational Support Perception and Its Sub-Dimensions According to Tenure in the Profession

Sub Dimension	Group	n	$\bar{X}$	Ss .	F	p
General Scale	Less than 5 years	36	3.65	0.71		
	5–10 years	92	3.78	0.68		
	11–15 years	105	3.91	0.66		
	16 years and above	77	4.02	0.63	3,214	0.023
	Less than 5 years ↔ 16 years and above					
Instructional Support	Less than 5 years	36	3.61	0.69		
	5–10 years	92	3.73	0.65		
	11–15 years	105	3.86	0.64		
	16 years and above	77	3.95	0.62	2,981	0.032
	Less than 5 years ↔ 16 years and above					
Administrative Support	Less than 5 years	36	3.59	0.75		
	5–10 years	92	3.81	0.70		
	11–15 years	105	3.94	0.68		
	16 years and above	77	4.06	0.65	3,537	0.017
	5–10 years ↔ 16 years and above					
Justice Support	Less than 5 years	36	3.74	0.68		
	5–10 years	92	3.81	0.71		
	11–15 years	105	3.89	0.69		
	16 years and above	77	3.94	0.66	1.945	0.122

$p < 0.05$

In order to determine whether the participants' perceptions of organizational support differed according to their tenure in the profession, one-way analysis of variance (ANOVA) was applied. According to the findings, a statistically significant difference was found in the general scores of the organizational support scale ($F = 3.214$, $p = 0.023$). According to the post-hoc (Tukey) test result, this difference was especially significant between teachers with less than 5 years of experience and teachers with 16 years and more experience. Similarly, a significant difference was found in the instructional support ($p = 0.032$) and administrative support ($p = 0.017$) sub-dimensions. It is understood that teachers who have been on duty for many years in particular perceive a higher level of support from the organization. No significant difference was found between age groups in the justice support sub-dimension ($p = 0.122$).

Table 9. T-Test Results of Organizational Adaptability and Its Sub-Dimensions by Gender

Sub Dimension	Group	n	$\bar{X}$	Ss .	t	df (df)	p
General Scale	Woman	186	3.81	0.67	1,763	308	0.079
	Male	124	3.69	0.71			
Distributive Justice	Woman	186	3.76	0.72	1,545	308	0.124
	Male	124	3.63	0.76			
Interactional Justice	Woman	186	3.89	0.68	2,215	308	0.028*
	Male	124	3.69	0.71			
Procedural Justice	Woman	186	3.78	0.66	1,909	308	0.057
	Male	124	3.63	0.70			

$p < 0.05$

When the participants' organizational justice perceptions are compared according to the gender variable, it is seen that the average scores of female teachers ($\bar{X} = 3.81$) are higher than male teachers ($\bar{X} = 3.69$) at the general scale level. However, this difference is not statistically significant ($t(308) = 1.763$, $p = 0.079$). When examined at the sub-dimensions level; a significant difference was found in the interactional justice dimension according to gender ($p = 0.028$). The average score of female teachers in this dimension ($\bar{X} = 3.89$) is significantly higher than the score of male teachers ($\bar{X} = 3.69$). This shows that female teachers feel more justice in their communication with administrators in their institutions. On the other hand, although the average scores of female teachers are higher in the distributive justice and procedural justice dimensions, these differences are not statistically significant ($p = 0.124$ and $p = 0.057$). The p value in the procedural justice dimension is quite close to the significance limit, but does not exceed the significance threshold. These findings show that, in general, female teachers' organizational justice perceptions are higher than male teachers; however, this difference only reaches a significant level in the interactional dimension.

Table 10. T-Test Results of Organizational Commitment and Its Sub-Dimensions According to Marital Status

Sub Dimension	Group	n	$\bar{X}$	Ss .	t	df (df)	p
General Scale	Single	138	3.69	0.72	-2,008	308	0.045*
	Married	172	3.83	0.66			
Distributive Justice	Single	138	3.60	0.75	-1,782	308	0.076
	Married	172	3.74	0.73			
Interactional Justice	Single	138	3.71	0.71	-2.153	308	0.032*
	Married	172	3.86	0.69			
Procedural Justice	Single	138	3.67	0.70	-1.934	308	0.054
	Married	172	3.80	0.67			

$p < 0.05$

The results of the independent sample t-test conducted to determine whether the participants' organizational justice perceptions differed according to marital status are presented in Table 6. At the general scale level, the average score of married teachers ($\bar{X} = 3.83$) is higher than that of single teachers ($\bar{X} = 3.69$), and this difference is statistically significant ($t(308) = -2.008$, $p = 0.045$). When the sub-dimensions are examined, a significant difference is also observed in the interactional justice dimension ($p = 0.032$). The perception of married teachers in this sub-dimension ($\bar{X} = 3.86$) is higher than the perception of single teachers ($\bar{X} = 3.71$). This shows that married teachers perceive a greater sense of justice in their interactions with administrators. Although the average scores of married teachers were higher in the distributive justice and procedural justice dimensions, these differences did not reach statistical significance ($p = 0.076$ and $p = 0.054$).

Table 11. ANOVA-Test Results of Organizational Adaptability and Its Sub-Dimensions According to Age

Sub Dimension	Age group	n	$\bar{X}$	Ss .	F	p
General Scale	22–27	42	3.65	0.70	2,874	0.025
	28–33	74	3.71	0.66		
	34–39	81	3.80	0.67		
	40–45	65	3.88	0.64		
	46 and above	48	3.90	0.62		
22–27 ↔ 46 and above						

Sub Dimension	Age group	n	$\bar{X}$	Ss .	F	p
Distributive Justice	22–27	42	3.52	0.75	2,106	0.078
	28–33	74	3.63	0.70		
	34–39	81	3.68	0.69		
	40–45	65	3.76	0.67		
	46 and above	48	3.79	0.65		
Interactional Justice	22–27	42	3.66	0.74	2,657	0.033 <i>22–27 ↔ 40–45 and 46+</i>
	28–33	74	3.75	0.69		
	34–39	81	3.83	0.66		
	40–45	65	3.88	0.64		
	46 and above	48	3.92	0.62		
Procedural Justice	22–27	42	3.65	0.70	2,331	0.057
	28–33	74	3.70	0.69		
	34–39	81	3.78	0.67		
	40–45	65	3.82	0.64		
	46 and above	48	3.86	0.63		

$p < 0.05$

When the participants' organizational justice perceptions were compared according to age groups, a significant difference was found at the general scale level ($F = 2.874$, $p = 0.025$). According to the post-hoc analysis results, this difference was especially significant between the 22–27 age group and the 46 and above age group. While young participants reported lower justice perceptions, teachers in the older age group had higher justice perceptions. The difference obtained for interactional justice from the sub-dimensions was also statistically significant ($F = 2.657$, $p = 0.033$). This difference emerged especially between the 22–27 age group and the 40–45 and 46 age groups. This finding shows that a more fair perception occurs in interpersonal interactions as age increases. On the other hand, the differences observed in the distributive justice ($p = 0.078$) and procedural justice ($p = 0.057$) sub-dimensions were close to the significance limit, but did not reach a statistically significant level. As a result, it is seen that age is a determining factor especially in general organizational justice and interactional justice perception, and young teachers have lower perception in these dimensions.

Table 12. ANOVA-Test Results of Organizational Adaptability and Its Sub-Dimensions According to Tenure in the Profession

Sub Dimension	Term of Office	n	$\bar{X}$	Ps .	F	p
General Scale	Less than 5 years	36	3.64	0.73	3,012	0.030 <i>Less than 5 years ↔ 16 years and above</i>
	5–10 years	92	3.71	0.70		
	11–15 years	105	3.83	0.66		
	16 years and above	77	3.91	0.62		
Distributive Justice	Less than 5 years	36	3.55	0.76	1,742	0.159
	5–10 years	92	3.66	0.71		
	11–15 years	105	3.72	0.69		
	16 years and above	77	3.78	0.67		
Interactional Justice	Less than 5 years	36	3.62	0.74	2,774	0.041 <i>Less than 5 years ↔ 16 years and above</i>
	5–10 years	92	3.75	0.68		
	11–15 years	105	3.84	0.65		
	16 years and above	77	3.90	0.63		
Procedural Justice	Less than 5 years	36	3.63	0.71		
	5–10 years	92	3.70	0.68		

Sub Dimension	Term of Office	n	$\bar{X}$	Ps .	F	p
	11–15 years	105	3.78	0.66		
	16 years and above	77	3.83	0.64	2.268	0.081

$p < 0.05$

In order to determine whether the participants' organizational justice perceptions differed according to their tenure in the profession, one-way analysis of variance (ANOVA) was conducted. In terms of general organizational justice perception, the tenure variable created a significant difference ($F = 3.012$, $p = 0.030$). According to the post-hoc test results, this difference emerged especially between teachers with less than 5 years of tenure and teachers with 16 years and more. Teachers who have been working for a long time perceive higher levels of organizational justice. Similarly, a significant difference was observed in the interactional justice dimension ($F = 2.774$, $p = 0.041$). In this dimension, a significant difference was determined between the groups of less than 5 years ↔ 16 years and more. This situation shows that senior teachers think that they perceive more fair attitudes in their relations with administrators. Although the mean scores between the groups tended to increase in the distributive justice and procedural justice dimensions, the differences were not found to be statistically significant ($p > 0.05$).

When evaluated in general, it is seen that as the professional seniority period increases, the organizational justice perception of the teachers increases and this increase reaches a significant level, especially at the interactional level.

3.2.4. Correlation Analysis

Table 13. Correlations between Organizational Support and Organizational Adherence and Sub-Dimensions (n = 310)

Variables	1	2	3	4	5	6	7	8
1. Organizational Support (General)	1.00							
2. Instructional Support	.841**	1.00						
3. Administrative Support	.876**	.604**	1.00					
4. Justice Support	.903**	.588**	.672**	1.00				
5. Distributive Justice	.649**	.497**	.528**	.559**	1.00			
6. Interactional Justice	.715**	.622**	.675**	.698**	.532**	1.00		
7. Procedural Justice	.704**	.543**	.607**	.672**	.591**	.658**	1.00	
8. Organizational Justice (General)	.768**	.634**	.682**	.719**	.678**	.792**	.774**	1.00

The correlation matrix presented above reveals the relationships between teachers' organizational support and justice perceptions and the sub-dimensions of these perceptions. A positive and highly significant relationship was determined between the general score of organizational support and the general score of organizational justice ($r = .768$, $p < .01$). This result shows that as the perception of support increases, the perception of justice also increases. Among the three sub-dimensions of the perception of support, especially justice support is the sub-dimension with the highest correlation with organizational justice ($r = .719$, $p < .01$). This situation shows that fair practices are one of the main determinants of the sense of organizational support. In addition, the general score of organizational support is positively and significantly related to all justice dimensions: distributive justice ($r = .649$), interactional justice ($r = .715$) and procedural justice ($r = .704$). These findings reveal that a supportive organizational structure is also related to a just management climate. As a result, the level of support that teachers perceive from their organizations significantly affects their sense of justice in the organization. In this context, administrative, instructional and justice-based support elements play a critical role in ensuring organizational justice.

Table 14. Effect of Organizational Support on Organizational Adherence (Simple Linear Regression)

Model	B	Std. Error	β	t	p	R ²	F	p (ANOVA)
Still	1,124	0.178	—	6.315	.000			
Organizational Support	0.675	0.045	.768	14,953	.000**	.590	223.60	.000**

* $p < .05$, ** $p < .01$ level of significance

According to the table above, organizational support has a significant and strong effect on organizational loyalty. According to the findings obtained from the regression analysis, organizational support perception is a significant predictor of organizational loyalty ($\beta = .768$, $p < .01$). This shows that supportive organizational structures are

evaluated as more fair by employees. The explanatory power of the model is high; $R^2 = .590$ value reveals that organizational support perception explains 59% of the total variance in organizational loyalty. The regression model is generally significant ($F(1, 308) = 223.60, p < .01$).

The results show that the level of support teachers perceive from the institution significantly affects their perception of organizational justice. Supportive management approach, distribution of justice, transparency of processes and interactive behaviors play an important role in the development of this perception.

CONCLUSION

When the findings obtained within the scope of this research are evaluated in general, it is concluded that the organizational support and organizational justice perceptions of the teachers in the private schools they work are at a high level. The participants stated that they receive administrative, instructional and justice-based support from their organizations; similarly, they stated that they have a positive perception in the distributional, procedural and interactional dimensions of justice within the organization. The high scores obtained from both scales indicate that the teachers perceive a generally supportive and fair atmosphere in the institutions they work.

It was determined that female teachers had higher organizational support and interactional loyalty compared to male teachers. Similarly, it was seen that married teachers had more positive evaluations than single teachers in both support and loyalty. This situation indicates that teachers' personal and social situations may be effective in their perception of the organizational environment.

The findings obtained in terms of age variable revealed that the perception of organizational support did not show a significant difference according to age; however, significant differences were found in the perception of organizational justice, especially between young teachers and older teachers. It was observed that older teachers perceived justice at a higher level, especially in interpersonal interactions.

When evaluated in terms of the tenure variable, it was understood that senior teachers had higher organizational support and organizational justice. It was determined that teachers who had been working for many years in particular had the perception that they were supported more and treated fairly in their relationships with administrators.

Correlation and regression analyses revealed that there are strong and positive relationships between organizational support and organizational justice. As teachers' perception of organizational support increases, their sense of justice also increases in parallel. This finding shows that providing justice in organizations strengthens the sense of support; similarly, supportive organizational practices strengthen the sense of justice. As a result, a supportive and fair management approach has the potential to increase teachers' organizational commitment and job satisfaction.

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THE EFFECT OF INDIVIDUAL-ORGANISATION FIT ON JOB SATISFACTION : THE CASE OF PRIVATE SECTOR EMPLOYEES IN THE TURKISH REPUBLIC OF NORTHERN CYPRUS (KKTC)

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ABSTRACT

The main purpose of this study is to examine the relationship between the level of individual–organisation fit and job satisfaction among employees working in the private sector in the Turkish Republic of Northern Cyprus (TRNC). The research was designed using a quantitative method and employed a relational survey model to identify and analyse relationships between variables. During the data collection process, 385 participants were reached through a convenience sampling method from among individuals employed in various private sector organisations across the TRNC. The Individual–Organisation Fit Scale and the Minnesota Job Satisfaction Scale were used as data collection instruments. The data gathered were analysed using SPSS 28 statistical software. The results revealed a significant and positive relationship between individual–organisation fit and overall job satisfaction. The findings indicate that employees who perceive a higher degree of alignment between their personal values, goals, and the organisational culture tend to report greater job satisfaction levels. Furthermore, the study examined the effects of various demographic variables and found that factors such as age, marital status, education level, and years of work experience create meaningful differences in both individual–organisation fit and job satisfaction. Specifically, the results showed that employees' perceptions of fit and satisfaction increased with age and work experience, suggesting that mature and experienced employees are more likely to feel aligned with their organisations and satisfied in their roles.

It was also determined that female and married employees reported higher levels of individual–organisation fit and job satisfaction than their male and single counterparts. Additionally, an increase in educational attainment was found to be associated with higher levels of perceived organisational fit and satisfaction, underlining the influence of education on work attitudes and alignment. These findings highlight the critical role of individual–organisation fit in shaping employees' job satisfaction and point to its broader influence on other organisational outcomes such as employee commitment, motivation, and performance. The results suggest that when employees feel that their values, beliefs, and work styles align with those of their organisation, they are more likely to experience both internal and external aspects of job satisfaction. In light of these insights, it is recommended that human resources policies and practices be designed to actively support and strengthen the alignment between individual characteristics and organisational culture. Recruitment, onboarding, and employee development practices should focus on selecting, integrating, and retaining employees whose personal attributes and goals resonate with the organisational environment. Doing so can foster a positive work climate, increase job satisfaction, and ultimately contribute to organisational success and sustainability.

Keywords: Individual Organisation Fit, Job Satisfaction, Internal Satisfaction, External Satisfaction, Organisational Commitment

INTRODUCTION

1.1. Problem

Achieving sustainable success in organizations depends heavily on the alignment between employees and their organizations, as well as the degree of satisfaction employees derive from their jobs. In this context, the concept of person–organization fit refers to the extent of harmony between an individual’s values, norms, and expectations and the organization’s cultural structure, goals, and values (Cable & Judge, 1996; Andrews, Baker, & Hunt, 2011). A high level of person organization fit enables individuals to integrate more easily into the organizational environment and exhibit higher levels of job performance, commitment, and overall satisfaction (Ilkim & Derin, 2018; Bağcı, 2018). Job satisfaction, on the other hand, refers to the degree of contentment an individual experiences in their job and encompasses both intrinsic (e.g., personal development, meaning, autonomy) and extrinsic (e.g., salary, promotion opportunities, working conditions) factors (Mafini & Dlodlo, 2014). A large body of research has established that person–organization fit is positively and significantly related to job satisfaction (Ulutaş, Kalkan, & Bozkurt, 2015; Kılıç & Yener, 2015). Employees who experience a strong fit with their organization tend to find their roles more meaningful, feel a greater attachment to the organization’s values, and report higher levels of job satisfaction as a result (Taşpınar & Eryeşil, 2021).

This relationship becomes especially critical within the dynamic, competitive, and often unpredictable conditions of the private sector. For example, a study by Bayramlık, Bayık, and Güney (2015) on employees in the construction equipment industry found that employees with high levels of person–organization fit demonstrated significantly greater job satisfaction. Similarly, Andrews, Baker, and Hunt (2011) found that when employees’ values align closely with organizational values especially under conditions of high moral intensity the positive impact on job satisfaction is amplified. However, the link between person–organization fit and job satisfaction does not operate in isolation. It can be influenced by various factors, including sectoral differences, organizational culture, leadership style, demographic characteristics, and perceived job security (Ilkim & Derin, 2018). Factors that shape employees’ sense of belonging and satisfaction involve not only individual-level considerations but also broader structural and environmental elements. For this reason, continuously re-examining this relationship in different sectors, organizational contexts, and social environments is vital for informing effective management and human resources strategies. In this regard, exploring the relationship between person organization fit and job satisfaction in the unique socio-economic and cultural context of the Turkish Republic of Northern Cyprus provides valuable insights. The TRNC’s distinctive business landscape makes it an important setting for understanding how alignment between individual and organizational values shapes job satisfaction in the private sector. Findings from this research can contribute to the local academic literature while also offering practical guidance for HR professionals and organizational leaders seeking to foster alignment, commitment, and satisfaction among their workforce.

1.2. Purpose of the Research

The main purpose of this research is to examine the relationship between the level of fit between individuals working in the private sector in the Turkish Republic of Northern Cyprus (TRNC) and their organizations and job satisfaction. In this context, the connections between individual-organization fit and the sub-dimensions of job satisfaction (internal and external job satisfaction) are analyzed; in addition, the effects of demographic variables on these two basic structures are evaluated. The research aims to provide empirical evidence for both individual and organizational outcomes by revealing the predictive effect of individual-organization fit on job satisfaction.

1.2.1 Hypotheses

H₀₁: The level of individual-organization fit does not differ significantly according to the demographic characteristics of the participants.

H₁₁: The level of individual-organization fit differs significantly according to the demographic characteristics of the participants.

H₀₂: The level of job satisfaction does not differ significantly according to the demographic characteristics of the participants.

H₁₂: The level of job satisfaction differs significantly according to the demographic characteristics of the participants.

H₀₃: There is no significant relationship between individual-organization fit and job satisfaction.

H₁₃: There is a significant relationship between individual-organization fit and job satisfaction.

H₀₄: Individual-organization fit does not have a significant effect on job satisfaction.

H₁₄: Individual-organization fit has a significant effect on job satisfaction.

1.3. Importance of the Research

Individual-organization fit is an important concept that increases organizational efficiency and strengthens employee commitment in today's business world. Job satisfaction reflects the general satisfaction level of

individuals with their jobs and plays a determining role in many variables from employee performance to intention to leave. This research aims to fill the gap in the field-specific literature by examining the relationships between individual-organization fit and job satisfaction in the context of the TRNC private sector. In addition, the results obtained provide important practical contributions in terms of developing human resources policies, increasing employee experience and ensuring sustainable satisfaction in the workplace.

2. THEORETICAL FRAMEWORK

2.1. The Concept and Importance of Individual-Organization Fit

The continuous developments in technology, especially in areas such as autonomous systems, program software, and the internet, facilitate the rapid globalization of companies, enable global companies to reach all parts of the world, and make it difficult for companies to compete in these emerging market conditions. For these reasons, it is important for organizations to constantly improve themselves, strengthen their organizational structures, direct employees in line with the goals of the organization, and increase their efficiency and performance. In this context, employees who can keep up with the developments and changes in the organization should be selected and hired. The wrong choice may lead to the employee not being able to adapt to the organization, not being satisfied with the job, feeling unwilling, and wanting to leave the job (Akgül, 2024).

The systematic structure formed by more than one person coming together to achieve a common goal is called an organization (İşcan and Timuroğlu, 2007). The element that is considered as a working and social entity within the organization is defined as the individual (Başaran, 2004).

The harmony between the values, culture, goals, and mission of the organization and the individual values, goals, and personal characteristics of the employees is defined as individual-organization fit (Andrews et al., 2011). The existence of common characteristics between the organization and the individual, understanding each other, and contributing to each other are important for individual-organization fit (Bayramlık, 2015).

Chatman (1989) defined individual-organization fit as "the harmony between the values, characteristics, expectations, and attitudes of the individual and the organization", Cable and Judge (1995) as "the state of harmony between the value judgments between the individual and the organization", and Kristof (1996) as "the harmony observed when at least one of the parties (individual and organization) meets the needs of the other or when both parties meet the needs of each other". The existence of this fit increases the motivation of the employees and positively affects the performance of the organization. If there is no fit, the stress of the employees increases, they become restless, they can behave aggressively, and disruptions in the work can occur (Kaçmaz, 2024).

Organizations try to attract employees who will fit their culture, values, goals, and missions, and individuals tend to choose organizations that fit their characteristics, values, and goals (Kesen, 2017).

Individual-organization harmony is of great importance in terms of maintaining and sustaining the competitive power of organizations, success in achieving goals, profitability, careers and development of individuals, high job satisfaction, seeing and rewarding their successful work, and achieving their goals (Sutarjo, 2011).

2.2. The Concept of Job Satisfaction

Job satisfaction can be defined as the positive feelings felt by individuals in an organization regarding the characteristics of their work, working conditions, the attitudes of their coworkers, and how well they meet their expectations from work (Robbins and Judge, 2015). Employees' satisfaction with their work, their positive thoughts about their work, their general positive attitudes, and rewards for their successful work lead to job satisfaction (Sökmen, 2020).

Job satisfaction is the provision of environmental and emotional conditions that lead to individual satisfaction (Tuzlu, 2022). It refers to employees' attitudes and feelings about their work (Ayalew, 2023). In other words, job satisfaction can be defined as the attitudes in which desired and undesired experiences related to the work completed each other and integration emerged as a result (Gök, 2021).

Kinicki and Williams defined job satisfaction as the emotional response an individual feels for their job, while Newstorm defined it as the sense of benefit and interaction employees feel about their jobs (Nurjanah et al., 2020).

Job satisfaction can be considered from two perspectives: internal and external. Internal job satisfaction refers to the degree to which individuals find their expectations met in their jobs, while external job satisfaction refers to the degree to which they benefit from opportunities offered by the organization, such as wages, promotion opportunities, working conditions, organizational policies, support, and relationships with other employees (Al-Asadi et al., 2019).

Job satisfaction is important for both individuals and organizations. Employees with low job satisfaction may want to move to different organizations, their vital and mental conditions may not be good and they may reflect this on their work as negativities such as coming to work late or not doing their job on time. Individuals with high job satisfaction feel happy and good, their private lives, performance at work and productivity are positively affected. Their own success and therefore the success of the organization they are a member of increases (Abdullah, 2025). When evaluated from the perspective of organizations, in order for the organization to achieve its goals, employees must perform well, and for this to happen, employees must be compatible with the organization, have high job satisfaction, and be happy with their work. The situation where both parties gain materially and spiritually will

increase the happiness of both the individual and the organization. When employees have high job satisfaction, a positive organizational climate will emerge, long-term retention in the organization, a peaceful and stress-free working environment, loyalty, productivity, and success will emerge (Omah and Obiekwe, 2019).

3. RESEARCH METHODS AND FINDINGS

3.1. Research Model

This study is a quantitative research. Quantitative research is a systematic research that aims to reveal the relationships between variables through the collection of numerical data and statistical analysis. This type of research, used for descriptive and causal purposes, aims to produce generalizable results based on objective criteria (Büyükoztürk, Kılıç Çakmak, Akgün, Karadeniz, & Demirel, 2019). The relational screening model was used in the study. The relational screening model is a research design that aims to determine the level and direction of existing relationships between two or more variables. This model does not establish causality between variables, only tries to describe the relationship between them (Karasar, 2014).

3.2. Universe and Sample

In this study, convenience sampling method was used to collect data among private sector employees in the Turkish Republic of Northern Cyprus (TRNC). In cases where it is difficult to reach the entire universe, this method is based on a sample consisting of individuals who are accessible to the researcher and willing to participate. It is widely preferred especially in quantitative research due to its ease of application and time saving (Büyükoztürk, Kılıç Çakmak, Akgün, Karadeniz, & Demirel, 2019). The sample of the study consists of 384 employees working in different private sector enterprises in the TRNC and who participated in the study voluntarily. Since the exact size of the universe is not known, the formula suggested by Cochran (1963) was used as the basis for calculating the sample size. The calculation made with a 95% confidence level ($t = 1.96$) and a 5% margin of error ($d = 0.05$) is as follows:

$$n = \frac{(1.96)^2 \cdot 0.5 \cdot (1 - 0.5)}{(0.05)^2} = \frac{3.8416 \cdot 0.25}{0.0025} = \frac{0.9604}{0.0025} = 384.16$$

According to this calculation, a sample of at least 384 people was considered sufficient for the study and this number was met with 385 participants. The data obtained within this scope represents a sufficient sample level in terms of validity and reliability of the study.

3.3. Data Collection Tools

Individual-Organization Fit Scale

Netemeyer and colleagues (1997), was translated into Turkish by Turunç and Çelik (2012) and its validity and reliability studies were conducted. The scale has a five-point Likert structure and has a one-dimensional structure. Reliability analyses were repeated in different studies. In the studies conducted by Netemeyer and his team, the Cronbach Alpha value of the scale was reported as .88, while this value was found to be .81 in the validity-reliability analysis conducted by Turunç and Çelik (2012). In the analyses conducted in this study, the reliability coefficient was calculated as .78.

Minnesota Job Satisfaction Scale

The Minnesota Job Satisfaction Scale was developed by Weiss, Dawis and England in 1967 and was translated into Turkish by Baycan (1985). The scale has been widely used in studies conducted in different occupational groups and sectors, and high reliability levels have been obtained as a result of studies conducted with various samples. The scale, which has 5-point Likert-type response options, consists of a total of 20 statements collected in two main dimensions. In its adapted form for Turkish, both the factor structure and the reliability level have been retested. In this context, the scale is used to evaluate various sub-dimensions of job satisfaction.

3.4. Analysis of Data

SPSS 28 package program was used in the analysis of the data obtained in the study. In the analysis process, firstly, normality analysis was performed to determine whether the variables showed normal distribution.

Table 1. Normality Analysis

Scale / Sub-Dimension	Shapiro-Wilk p-value	Skewness	Kurtosis
Job Satisfaction (General)	0.000	-0.56	0.87
Intrinsic Job Satisfaction	0.000	0.42	-1.02
Extrinsic Job Satisfaction	0.000	-1.11	1.23

Scale / Sub-Dimension	Shapiro-Wilk p-value	Skewness	Kurtosis
Individual-Organization Fit Scale	0.000	0.77	-0.65

The Shapiro-Wilk p-value was 0.000 in all scales and sub-dimensions. This result shows that the data deviate from normal distribution and non-parametric analyses may be more appropriate. However, all skewness and kurtosis values are in the range of +2 to -2. This shows that the data set is roughly symmetrical and reasonably close to normal distribution, supporting the applicability of parametric tests according to some sources (Tabachnick and Fidell, 2013; George and Mallery, 2010).

Table 2. KMO and Bartlett's Test Results

Test	Value
Kaiser-Meyer-Olkin (KMO)	0.872
Bartlett's Test of Sphericity	$\chi^2 = 1324.58$, df = 190, p = .000

The KMO value was found to be 0.872. This value shows that the sample adequacy is at a high level and the data is quite suitable for factor analysis. When the KMO value is above .80, it is accepted as “excellent” (Field, 2009). The Bartlett's Test of Sphericity result was significant (p < .001). This result shows that there are significant correlations between the variables and that the data is suitable for factor analysis.

Table 3. Reliability Analysis

Scale / Sub-Dimension	Number of Items	Cronbach's Alpha
Intrinsic Job Satisfaction	12	0.89
Extrinsic Job Satisfaction	8	0.84
Job Satisfaction (General)	20	0.91
Individual-Organization Fit Scale	4	0.88

Cronbach's Alpha coefficient is used to evaluate the internal consistency of the scales. Values of 0.70 and above are generally considered acceptable, while values of 0.80 and above are considered high reliability (Nunnally and Bernstein, 1994). As seen in the table, both the job satisfaction scale and the individual-organization fit scale were found to be highly reliable.

4. FINDINGS

Table 4. Demographic Characteristics of Participants (n = 385)

Demographic Variables	Categories	n	%
Age	18–25	66	17.14
	26–30	98	25.45
	31–35	65	16.88
	36–40	65	16.88
	41–45	33	8.57
	46–50	32	8.31
	51 and over	26	6.75
Gender	Woman	204	52.99
	Male	181	47.01
Marital status	Single	172	44.68
	Married	213	55.32
Educational Status	High school	38	9.87
	Associate Degree	75	19.48
	Licence	158	41.04
	Degree	94	24.42
	Doctorate	20	5.19
Professional Experience Length	Less than 1 year	19	4.94

Demographic Variables	Categories	n	%
	1–5 years	113	29.35
	6–10 years	100	25.97
	11–15 years	76	19.74
	16–20 years	39	10.13
	21 years and above	38	9.87
	Total	385	100

The data on the demographic characteristics of the 385 participants constituting the sample of the study are summarized below. When the age distribution of the participants is examined, it is seen that the densest group is in the 26–30 age range with 25.45%. This is followed by the 18–25 age groups with 17.14%, and the 31–35 and 36–40 age groups with 16.88%, respectively. When the gender variable is examined, it was found that 52.99% of the participants were female and 47.01% were male. In terms of marital status, 55.32% of the participants were married and 44.68% were single. When the educational status data was examined, 41.04% of the participants had a bachelor's degree, 24.42% had a master's degree, 19.48% had an associate degree, 9.87% had a high school degree, and 5.19% had a doctorate. In terms of professional experience, 29.35% of the participants have 1–5 years, 25.97% have 6–10 years, 19.74% have 11–15 years, 10.13% have 16–20 years, 9.87% have 21 years and above, and 4.94% have less than 1 year of experience. These data show that the sample has a diverse structure in terms of age, gender, marital status, education, and experience.

3.2.2. Mean and Standard Deviation Values of Scales

Table 5. Mean and Standard Deviation Values of Scales and Sub-Dimensions

Subscale	n	Min.	Max .	Average	Standard Deviation (SD)
Intrinsic Job Satisfaction	385	1.2	5.0	3.78	0.61
Extrinsic Job Satisfaction	385	1.0	4.9	3.54	0.66
Job Satisfaction (General)	385	1.1	5.0	3.66	0.63
Individual-Organization Fit	385	1.3	5.0	3.71	0.59

According to this table, the job satisfaction levels of the participants were examined in both internal and external dimensions. It was observed that the level of internal job satisfaction ($\bar{x}=3.78$) was higher than the level of external job satisfaction ($\bar{x}=3.54$). The general job satisfaction average was 3.66. In addition, the high average value of the individual-organization fit scale ($\bar{x}=3.71$) shows that the value fit of the employees with their organizations is generally perceived positively.

The study examined whether there was a statistically significant difference in the levels of individual-organization fit according to age groups.

Table 6. Individual-Organization Fit ANOVA Test Results According to Age Groups

Age group	n	$\bar{X}$	Hss	f	p
18–25	66	3.62	0.68		
26–30	98	3.80	0.71		
31–35	65	3.78	0.74		
36–40	65	3.81	0.77	3.42	0.004
41–45	33	3.90	0.69		
46–50	32	3.87	0.73		
51 and over	26	3.92	0.65		

$p < 0.05$

According to the results of one-way analysis of variance (ANOVA), the age variable creates a significant difference on individual-organization fit ($f = 3.42$, $p = 0.004$, $p < 0.05$). As a result of the post-hoc analyses, it was determined between which groups there were significant differences in terms of individual-organization fit between age groups. According to the Tukey HSD test findings, a significant difference was found between the 18–25 age group and the 41–45, 46–50 and 51 and above age groups ($p < 0.05$). This situation reveals that especially the employees in the younger age group exhibit a lower level of fit with organizational structures, whereas the level of fit of individuals to the organization increases significantly with age. It is evaluated that this difference may be due to the increasing professional experience with age, the ability to recognize organizational expectations and adapt to working life.

In the study, it was examined whether there was a significant difference in the levels of individual-organization fit according to the gender variable.

Table 7. Individual-Organization Fit T-Test Results According to Gender Variable

Group	n	$\bar{X}$	Ps .	f	p
Woman	204	3.84	0.72		
Male	181	3.69	0.76	4.89	0.027

$p < 0.05$

According to the results of the independent sample t-test, the mean score of the female participants in terms of individual-organization fit was calculated as 3.84 (SD = 0.72) and that of the male participants as 3.69 (SD = 0.76). The f value obtained from the analysis was 4.89 and the p value was 0.027, and this difference was found to be statistically significant ($p < 0.05$). This finding shows that the levels of value fit and interaction of female employees with their organizations are higher than male employees. Therefore, gender stands out as an important variable in terms of individual-organization fit; it is understood that women provide higher levels of fit in organizational bonding and integration processes. This situation suggests that female employees may have more positive attitudes towards the work environment and may show similar tendencies in other variables such as organizational commitment or job satisfaction.

In the study, an independent sample t-test was applied to determine whether the levels of individual-organization fit differ according to the marital status variable.

Table 8. Individual-Organization Fit T-Test Results According to Marital Status

Group	n	$\bar{X}$	Hss	t	p
Single	172	3.71	0.75		
Married	213	3.84	0.72	2.10	0.036

$p < 0.05$

As a result of the analysis, a statistically significant difference was found between the individual-organization fit scores according to marital status ($t = 2.10$, $p = 0.036$, $p < 0.05$). When the mean values are examined, it is seen that the individual-organization fit levels of married participants ($\bar{X} = 3.84$) are higher than single participants ($\bar{X} = 3.71$). This situation shows that married individuals develop more commitment to work life and establish a stronger harmony relationship with the organization. The obtained finding suggests that married individuals can be more stable, responsible individuals and have a high sense of institutional belonging in work life. In this context, it can be said that marital status has a decisive effect on individual-organization fit.

One-way analysis of variance (ANOVA) was used to examine whether there was a significant difference in individual-organization fit scores according to educational status.

Table 9. Individual-Organization Fit ANOVA Results According to Educational Status

Educational Status	n	$\bar{X}$	Hss	f	p
High school	38	3.60	0.72		
Associate Degree	75	3.72	0.74		
Licence	158	3.81	0.70	3.87	0.004
Degree	94	3.89	0.68		
Doctorate	20	3.93	0.66		

$p < 0.05$

As a result of the analysis, it was determined that the level of education created a statistically significant difference on the individual-organization fit ($f = 3.87$, $p = 0.004$, $p < 0.05$). When the mean values are examined, it is seen that the individual-organization fit scores increase as the level of education increases. The lowest mean fit was found in high school graduates ($\bar{X} = 3.60$), while the highest fit was found in participants with doctoral education ($\bar{X} = 3.93$). As a result of the post-hoc (multiple comparison) analyses, it was determined that especially the high school and associate degree groups exhibited significantly lower individual-organization fit compared to the undergraduate and above education groups. This situation suggests that academic competence and critical thinking level may be determinant in ensuring compliance with organizational values. It can be said that as the level of education increases, employees can better adopt the organizational culture and this situation positively affects their compliance levels.

Table 10. ANOVA Results of Individual-Organization Fit According to Professional Experience Length

Professional Experience Length	n	$\bar{X}$	Hss	f	p
Less than 1 year	19	3.55	0.71	4.12	0.002
1–5 years	113	3.69	0.73		
6–10 years	100	3.81	0.68		
11–15 years	76	3.86	0.70		
16–20 years	39	3.91	0.69		
21 years and above	38	3.94	0.66		

$p < 0.05$

In the study, it was examined whether there was a significant difference between the levels of individual-organization fit according to the length of professional experience. As a result of the one-way analysis of variance (ANOVA), it was determined that there was a statistically significant difference between the length of experience and individual-organization fit ($f = 4.12$, $p = 0.002$, $p < 0.05$). When the mean values were examined, it was seen that the individual-organization fit scores increased with the length of experience. The lowest mean was found in participants with less than 1 year of experience ($\bar{X} = 3.55$), while the highest mean was found in those with 21 years and more experience ($\bar{X} = 3.94$). As a result of the post-hoc analyses, it was revealed that there were significant differences especially between participants with less than 1 year and 1–5 years of experience and participants with 11 years and more experience. This finding shows that organizational fit develops over time and that individuals establish a stronger bond with institutional values as they gain experience. It can be said that as professional seniority increases, the level of integration of employees with the organization increases.

The study examined whether there was a significant difference in the intrinsic job satisfaction, extrinsic job satisfaction and general job satisfaction levels of the participants according to their age groups.

Table 11. ANOVA Results of Job Satisfaction Sub-Dimensions According to Age Groups

Sub Dimension	Age group	n	$\bar{X}$	Ps .	f	p
Intrinsic Job Satisfaction	18–25	66	3.55	0.70	3.21	0.004
	26–30	98	3.71	0.68		
	31–35	65	3.74	0.72		
	36–40	65	3.76	0.70		
	41–45	33	3.82	0.69		
	46–50	32	3.85	0.73		
	51 and over	26	3.88	0.64		
Extrinsic Job Satisfaction	18–25	66	3.28	0.73	2.87	0.012
	26–30	98	3.44	0.75		
	31–35	65	3.47	0.71		
	36–40	65	3.50	0.68		
	41–45	33	3.56	0.66		
	46–50	32	3.58	0.70		
	51 and over	26	3.60	0.72		
Overall Job Satisfaction	18–25	66	3.42	0.69	3.09	0.006
	26–30	98	3.60	0.71		
	31–35	65	3.64	0.69		
	36–40	65	3.68	0.65		
	41–45	33	3.74	0.63		
	46–50	32	3.77	0.67		
	51 and over	26	3.79	0.66		

$p < 0.05$

one-way analysis of variance (ANOVA), statistically significant differences were found in all three job satisfaction dimensions depending on age. According to the results obtained in terms of intrinsic job satisfaction, the age variable creates a significant difference ($f = 3.21$, $p = 0.004$). The lowest intrinsic job satisfaction average was seen in the 18–25 age group ($\bar{X} = 3.55$), while the highest average was seen in the 51 and over age group ($\bar{X} = 3.88$). Similarly, a significant difference was found in terms of extrinsic job satisfaction ($f = 2.87$, $p = 0.012$). It was

observed that extrinsic job satisfaction levels increased with age in this sub-dimension; while it was $\bar{X} = 3.28$ in the 18–25 age group, it was $\bar{X} = 3.60$ in the 51 and over age group. There is a significant difference in the general job satisfaction dimension according to the age variable ($f = 3.09$, $p = 0.006$). The lowest general job satisfaction was again determined in the 18–25 age group ($\bar{X} = 3.42$) and the highest level was determined in participants aged 51 and over ($\bar{X} = 3.79$). These findings show that as age increases, individuals' intrinsic and extrinsic job satisfaction increases, and therefore, general job satisfaction also increases. Factors such as work experience, commitment to the organization, clarification of career expectations and adaptation to the work environment that develop with age can be evaluated as elements that positively affect job satisfaction.

Table 12. T-Test Results of Job Satisfaction Sub-Dimensions by Gender

Sub Dimension	Group	n	$\bar{X}$	Ps .	f	p
Intrinsic Job Satisfaction	Woman	204	3.76	0.72	0.89	0.346
	Male	181	3.71	0.69		
Extrinsic Job Satisfaction	Woman	204	3.45	0.74	0.61	0.436
	Male	181	3.49	0.70		
Overall Job Satisfaction	Woman	204	3.60	0.71	0.13	0.719
	Male	181	3.59	0.68		

$p < 0.05$

The study examined whether there was a statistically significant difference between the sub-dimensions of job satisfaction according to the gender variable. As a result of the one-way variance analyses, it was determined that there was no significant difference between the female and male participants in terms of intrinsic job satisfaction ($f = 0.89$, $p = 0.346$), extrinsic job satisfaction ($f = 0.61$, $p = 0.436$) and general job satisfaction ($f = 0.13$, $p = 0.719$). When the mean values are examined, the intrinsic job satisfaction score is slightly higher in female participants ($\bar{X} = 3.76$) than in males ($\bar{X} = 3.71$), while extrinsic job satisfaction is slightly higher in males ($\bar{X} = 3.49$) than in females ($\bar{X} = 3.45$). However, these differences are not statistically significant. This finding shows that the satisfaction levels of female and male employees towards their jobs are similar.

Table 13. T-Test Results of Job Satisfaction Sub-Dimensions According to Marital Status

Sub Dimension	Group	n	$\bar{X}$	Ps .	f	p
Intrinsic Job Satisfaction	Single	172	3.61	0.74	4.12	0.043
	Married	213	3.76	0.70		
Extrinsic Job Satisfaction	Single	172	3.35	0.66	3.89	0.049
	Married	213	3.48	0.63		
Overall Job Satisfaction	Single	172	3.48	0.68	4.06	0.045
	Married	213	3.64	0.66		

$p < 0.05$

In the study, the effect of marital status on the sub-dimensions of job satisfaction was examined. According to the results of one-way analysis of variance (ANOVA), significant differences were found in intrinsic job satisfaction ($f = 4.12$, $p = 0.043$), extrinsic job satisfaction ($f = 3.89$, $p = 0.049$) and general job satisfaction ($f = 4.06$, $p = 0.045$) levels according to marital status. When the mean scores are examined, it is seen that married individuals experience higher levels of satisfaction in all sub-dimensions of job satisfaction compared to single individuals. This situation can be explained by the fact that married individuals seek a more stable work environment, have more developed life experiences and organizational commitment levels. These findings show that marital status can affect individuals' perceptions of work life and their satisfaction levels.

Table 14. ANOVA Results of Job Satisfaction Sub-Dimensions According to Educational Status

Sub Dimension	Group	n	$\bar{X}$	Ss .	f	p
Intrinsic Job Satisfaction	High school	38	3.52	0.71	3.98	0.004
	Associate Degree	75	3.57	0.68		
	Licence	158	3.65	0.70		
	Degree	94	3.78	0.72		
	Doctorate	20	3.80	0.75		
Extrinsic Job Satisfaction	High school	38	3.28	0.60		
	Associate Degree	75	3.33	0.66		

Sub Dimension	Group	n	$\bar{X}$	Ss .	f	p
Overall Job Satisfaction	Licence	158	3.43	0.65	3.64	0.007
	Degree	94	3.50	0.67		
	Doctorate	20	3.55	0.69		
	High school	38	3.40	0.65	4.12	0.002
	Associate Degree	75	3.45	0.67		
	Licence	158	3.54	0.66		
	Degree	94	3.65	0.68		
	Doctorate	20	3.68	0.70		

$p < 0.05$

The study examined whether there were significant differences in the sub-dimensions of job satisfaction according to the education level of individuals. As a result of the one-way variance analysis (ANOVA), statistically significant differences were found in the variables of intrinsic job satisfaction ($f = 3.98$, $p = 0.004$), extrinsic job satisfaction ($f = 3.64$, $p = 0.007$) and general job satisfaction ($f = 4.12$, $p = 0.002$) according to the education level. The post-hoc analysis results, which were conducted according to the obtained mean values, showed that there were significant differences between some groups. In terms of intrinsic job satisfaction, the satisfaction levels of individuals with doctoral level education were significantly higher than high school and associate degree graduates. In terms of extrinsic job satisfaction, it was determined that master's degree graduates had higher satisfaction levels compared to bachelor's degree graduates. In general job satisfaction, the highest average belonged to doctoral degree graduates; this group reported significantly higher satisfaction levels than high school, associate degree and bachelor's degree graduates. These findings reveal that as the level of education increases, the satisfaction individuals receive from their jobs increases and that higher levels of education provide more meaning, value and satisfaction in work life. It can be said that individuals with higher education levels in particular work in more suitable positions in terms of both the quality of the job and meeting their expectations, and this situation is reflected positively in their satisfaction levels.

Table 15. ANOVA Results of Job Satisfaction Sub-Dimensions According to Professional Experience Length

Sub Dimension	Group	n	$\bar{X}$	Ps .	f	p
Intrinsic Job Satisfaction	Less than 1 year	19	3.42	0.70	2.41	0.036
	1–5 years	113	3.55	0.68		
	6–10 years	100	3.64	0.71		
	11–15 years	76	3.72	0.65		
	16–20 years	39	3.81	0.63		
	21 years and above	38	3.85	0.62		
Extrinsic Job Satisfaction	Less than 1 year	19	3.35	0.73	2.87	0.016
	1–5 years	113	3.48	0.69		
	6–10 years	100	3.52	0.67		
	11–15 years	76	3.60	0.64		
	16–20 years	39	3.68	0.61		
	21 years and above	38	3.71	0.60		
Overall Job Satisfaction	Less than 1 year	19	3.38	0.71	2.92	0.014
	1–5 years	113	3.51	0.70		
	6–10 years	100	3.58	0.68		
	11–15 years	76	3.66	0.66		
	16–20 years	39	3.76	0.62		
	21 years and above	38	3.80	0.60		

$p < 0.05$

The study examined whether there were significant differences in job satisfaction levels according to length of professional experience. As a result of one-way variance analyses, it was observed that there were statistically significant differences between length of professional experience and all sub-dimensions of job satisfaction. When evaluated in terms of intrinsic job satisfaction, it was determined that the average score of employees with 11–15 years of experience ($\bar{X} = 3.72$) was significantly higher than that of employees with less than 1 year of experience

($\bar{X} = 3.42$) ($f = 2.41$, $p = 0.036$). In terms of extrinsic job satisfaction, it was determined that the average score of individuals with 21 years of experience and above ($\bar{X} = 3.71$) was significantly higher than that of individuals with less than 1 year ($\bar{X} = 3.35$) and 1–5 years ($\bar{X} = 3.48$) ($f = 2.87$, $p = 0.016$). In the analyses made in terms of general job satisfaction, it was determined that the average score ($\bar{X} = 3.80$) of the participants with 21 years of experience and above was significantly higher than all other professional experience groups ($f = 2.92$, $p = 0.014$). These results reveal that increasing professional experience positively affects job satisfaction levels.

Table 16. Relationship Between Individual-Organization Fit and Job Satisfaction

Variables	1	2	3
1. Individual-Organization Fit	1		
2. Intrinsic Job Satisfaction	.564**	1	
3. Extrinsic Job Satisfaction	.489**	.606**	1
4. Overall Job Satisfaction	.582**	.873**	.835**

In the study, correlation analysis was conducted to test whether there are significant relationships between individual-organization fit and job satisfaction. According to the analysis results, positive and statistically significant relationships were found between individual-organization fit and intrinsic job satisfaction ($r = .564$, $p < .01$), extrinsic job satisfaction ($r = .489$, $p < .01$) and general job satisfaction ($r = .582$, $p < .01$). These findings show that as individuals' fit with the organization they work for increases, their job satisfaction also increases. In particular, the relationship with intrinsic job satisfaction was found to be stronger compared to other sub-dimensions. This situation reveals that individuals experience more intrinsic satisfaction when their values coincide with organizational values.

Table 17. Effect of Individual-Organization Fit on Job Satisfaction

Model	B	Std . Error	β	t	p	R ²
Still	1,423	0.152	—	9.36	.000	
Individual-Organization Fit	0.647	0.051	.582	12.69	.000	.339

As a result of the regression analysis conducted in order to determine the effect of person-organization fit on general job satisfaction, person-organization fit was found to be a significant predictor of job satisfaction ($\beta = .582$, $p < .001$). The significance of the model is supported by the high t-value ($t = 12.69$) and the p-value being below .001. When the explanatory power of the regression model is examined, it is seen that the person-organization fit variable explains 33.9% of the total variance in general job satisfaction ($R^2 = .339$). This result shows that the fit that employees establish with their organizations has a strong and positive effect on their general satisfaction with their jobs.

CONCLUSION

This research was conducted to examine the relationships between the level of fit between individuals working in the private sector in the Turkish Republic of Northern Cyprus and their job satisfaction. The findings revealed that individual-organization fit and job satisfaction are strongly interconnected. The regression analysis results show that individual-organization fit has a significant and positive effect on overall job satisfaction.

The results obtained in terms of demographic variables are also noteworthy. The age variable created significant differences in both the individual-organization fit and job satisfaction dimensions. It was observed that the levels of fit and satisfaction increased especially with age, and this situation can be explained by elements such as experience, clarification of expectations and adaptation to the organizational environment. A significant difference in terms of gender was only detected in the context of individual-organization fit, and it was determined that female employees had higher levels of fit. In terms of marital status, it was observed that married individuals had higher scores in both the individual-organization fit and job satisfaction dimensions.

It has been determined that as the level of education increases, both the fit of individuals with the organization and the satisfaction they get from their jobs increase. It has been determined that individuals with a doctorate level in particular exhibit a higher level of overlap with organizational structures and that this situation is positively reflected in job satisfaction. Similarly, significant differences have been found between the length of professional experience and both individual-organization fit and job satisfaction; it has been determined that employees with longer experience exhibit more fit and satisfaction. These findings show that especially senior employees establish stronger relationships with organizational structures and that this situation increases their job satisfaction.

When evaluated in general, individual-organization fit stands out as a fundamental factor that can affect not only job satisfaction but also other important organizational outputs such as institutional commitment, performance and continuity. Therefore, it is of great importance for organizations to have value compatibility with their employees,

to establish open communication and to develop strategies to strengthen the employee experience. The findings of the research can provide guidance in many areas from personnel selection to internal communication, in order to implement human resources policies more effectively in the private sector.

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THE EFFECT OF ORGANIZATIONAL ALIENATION ON ORGANIZATIONAL CLIMATE

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ABSTRACT

This study examines the effect of employees' levels of organizational alienation on their perceptions of organizational climate. The research was conducted using a quantitative method with a stratified sampling approach and included 362 participants working in various sectors in the Turkish Republic of Northern Cyprus. The data were collected through a three-part questionnaire comprising demographic information as well as Organizational Climate and Organizational Alienation scales. The results indicate that women perceive the organizational climate more positively than men. Perceptions of organizational climate also improve with increasing age and education level. Managers' perceptions of the organizational climate are higher than those of non-managerial employees, and this perception becomes more positive as tenure within the organization increases. Regarding organizational alienation, men reported higher levels of alienation than women; however, alienation decreases with increasing age and education level. No significant differences were found in alienation levels with respect to position or length of service. A significant negative relationship was identified between organizational climate and organizational alienation. Regression analysis revealed that organizational alienation has a negative effect on climate perception, and the model explained 31% of the variance.

Keywords: Organizational Climate, Alienation, Organizational Alienation, Employee Perceptions.

1. INTRODUCTION

1.1. Problem

Organizations develop various strategies to increase employee motivation and commitment levels, employing a range of tools such as leadership practices, reward systems, training opportunities, and work environment arrangements. However, despite these efforts, organizational alienation can weaken individuals' ties to their workplaces and negatively affect their sense of belonging. The concept of organizational alienation appears in various dimensions, including employees' inability to find meaning in their work, feelings of ineffectiveness and powerlessness in work processes, a lack of control over work outcomes, and detachment from social ties (Seeman, 1959). These emotional and cognitive disconnections from work and the organization can have serious consequences, not only at the individual level but also for the organization's overall functioning.

The presence of organizational alienation weakens employees' workplace relationships, reduces their interactions with colleagues, and lowers their levels of organizational commitment. Moreover, perceptions of alienation can directly influence how individuals perceive the organizational climate. A negative perception of organizational climate does not merely reduce job satisfaction and motivation but also increases turnover intentions, disrupts internal communication, and contributes to decreased overall organizational performance (Ashforth, 1994; Schneider et al., 2013). In this context, organizational alienation can be seen as a multiplier that amplifies individual psychological challenges and collective organizational dynamics.

Research has shown that organizational alienation becomes more pronounced in organizations where leadership style, communication processes, organizational justice, and perceived support are insufficient (Chiaburu & Harrison, 2008). The absence of effective and supportive leadership can cause employees to feel excluded from decision-making processes, leading to greater alienation. Similarly, the lack of open, two-way communication channels reinforces the perception that employees' ideas and suggestions are disregarded, weakening their sense of organizational belonging. Such negative experiences contribute to a loss of trust among employees, reduced interactions with colleagues, and ultimately, feelings of isolation at work (Schaufeli & Bakker, 2004).

The problems stemming from organizational alienation not only threaten employees' psychological and physical well-being but also jeopardize the productivity, reputation, and long-term sustainability of organizations. When organizations fail to meet employees' psychosocial needs, it can lead to weakened organizational commitment, reduced innovation and productivity, and a decline in competitiveness.

On the other hand, research shows that a positive organizational climate can strengthen employee commitment, boost motivation, and significantly reduce organizational alienation (Parker et al., 2003). Organizational climate emerges from the interaction of multiple factors such as leadership style, supportive human resource practices, transparent communication, and organizational justice, shaping employees' perceptions of the organization (James & James, 1989). A strong, positive organizational climate enables employees to find greater meaning in their roles and feel more connected to the organization's overall goals. In this context, fully understanding the impact of organizational alienation on organizational climate and managing this relationship effectively is critical for organizations seeking to increase employee commitment, enhance job satisfaction, and reduce turnover. Creating an effective organizational climate directly supports individual employee well-being while contributing to the organization's overall success and sustainability. Therefore, organizations should adopt human-centered approaches to meet employees' psychosocial needs, develop strategies to prevent alienation, and continuously work to improve the organizational climate.

1.2. Purpose of the Research

This research is based on the purpose of examining the effect of employees' levels of organizational alienation on their perceptions of organizational climate. The study aims to explore how employees' feelings of alienation towards their work and their organizations influence their perceptions of the organizational climate. In addition, the study investigates whether there are significant differences in employees' perceptions of organizational alienation and organizational climate based on demographic variables such as gender, age, education level, position, and length of service within the organization.

1.2.1 Sub-Objectives

In line with the general purpose, the sub-objectives of the research are as follows:

- Is there a significant difference in the perception of organizational climate according to the gender variable?
- Is there a significant difference in organizational climate perception according to age groups?
- Is there a significant difference in organizational climate perception according to educational status?
- Is there a significant difference in organizational climate perception according to position?
- Is there a significant difference in the perception of organizational climate according to the length of service in the current institution?
- Is there a significant difference in organizational alienation and its sub-dimensions according to the gender variable?
- Is there a significant difference in organizational alienation and its sub-dimensions according to age groups?
- Is there a significant difference in organizational alienation and its sub-dimensions according to educational status?
- Is there a significant difference in organizational alienation and its sub-dimensions according to position?
- Is there a significant difference in organizational alienation and its sub-dimensions according to the length of service in the current institution?
- Is there a significant relationship between organizational climate and organizational alienation and its sub-dimensions?
- Does the level of organizational alienation have a significant effect on the perception of organizational climate?

1.3. Importance of the Research

From research in hand said findings , organizational alienation reduction And positive One organizational climate encouragement to be done should open One in this way emerge employees . themselves to the organization Belonging their feelings , their work meaning layers And work with friends strong social ties establishments , organizational success for critical One element aspect what's that In this direction , organizations Only individual to performance Focused short term solutions instead of employees psychosocial needs watching over LONG term strategies Developments It is necessary to research results , especially leadership development , communication processes Improvement And worker Participation enhancer Policies Creation of In terms of to the managers concrete suggestions offers . Human resources in their applications organizational justice , supportive work environment And career development opportunities emphasis , employee loyalty strengthening And estrangement risk decrease about important One basis These results have been created in the future . to be done studies for

organizational estrangement And climate between your relationship more detailed to be examined And intervention programs to the development of contribution will provide.

1.4. Limitations

Limitations of this research include:

- The research is limited only to individuals working in different sectors in the Turkish Republic of Northern Cyprus.
- A survey was used as the data collection method in the study, and data based on the participants' self-reports were taken into account.
- The measurement tools used were limited to organizational climate and organizational alienation scales.

1.5. Definitions

Organizational Climate: It refers to the perceptions of employees regarding elements such as leadership, communication, support and general atmosphere within the organization (Özdemir, 2007).

Organizational Alienation: It is a situation that includes the feelings of loss of meaning, powerlessness and lack of belonging that employees feel towards their jobs and organizations (Mottaz, 1981).

2.1. Organizational Estrangement

Organizational alienation refers to the weakening of the emotional ties that individuals have toward their organization, their work, and their profession. It occurs when employees feel detached or disconnected from their workplace, work environment, and colleagues, which can lead to a profound sense of alienation. This process can negatively affect an individual's motivation, job satisfaction, and overall psychological well-being.

When organizational alienation takes hold, employees' loyalty to the organization weakens and their sense of belonging diminishes. The absence of meaningful relationships within the workplace contributes to feelings of emotional detachment and disengagement, resulting in declining enthusiasm and commitment to work. This often manifests as reduced motivation, indifference, and decreased efficiency. Employees may no longer feel a sense of responsibility toward the organization, viewing their work merely as tasks to be completed rather than as part of a larger, meaningful purpose. This shift in attitude can negatively impact the overall work environment and organizational performance, as weakened emotional ties lead to lower levels of productivity and commitment (Tepper, 2000).

Several factors can contribute to organizational alienation. These include challenging work conditions, ineffective management, poor leadership, and a lack of organizational justice. Other contributing factors include excessive bureaucracy, monotonous or repetitive tasks, low levels of social support, and long working hours—all of which can increase employees' feelings of isolation and detachment (Maslach & Leiter, 1997).

The effects of organizational alienation are detrimental for both individuals and organizations. As motivation declines, job satisfaction decreases, turnover rates rise, and overall productivity suffers. Employees' sense of belonging weakens, making them more likely to disengage from the organization. This can lead to issues such as burnout, depression, stress, and other psychological difficulties. Over time, these negative consequences can severely impact employees' well-being and pose significant risks to organizational effectiveness and sustainability (Maslach & Leiter, 1997).

2.2. Organizational Climate

Organizational climate refers to employees' perceptions of the atmosphere, values, norms, and management style within an organization. It is a general sense of how employees experience and interpret the internal environment of their workplace and their interactions within it (Büyükoğkan & Göçer, 2020). Organizational climate reflects employees' daily experiences at work and plays a crucial role in shaping their satisfaction, motivation, job performance, and overall well-being. Unlike organizational culture, climate is often considered a distinct concept that captures the emotional and psychological perceptions arising from employees' day-to-day interactions.

Organizational climate encompasses employees' perceptions of various aspects of the workplace, such as leadership style, management policies, communication patterns, fairness, workload, and stress levels. These factors collectively influence how employees perceive the overall atmosphere of the workplace and, in turn, shape their commitment, job satisfaction, and performance. Moreover, organizational climate affects how employees relate to one another and influences group dynamics, as it essentially determines the "air" or "mood" within the organization (Şahin, 2019).

Although there are differences between organizational climate and organizational culture, they also share certain similarities. Organizational culture is a deeper, more enduring concept that encompasses an organization's core values, beliefs, and norms. In contrast, organizational climate describes how employees experience this culture in their everyday work—what they feel, perceive, and evaluate. In other words, organizational climate is a measure of the general atmosphere and the day-to-day conditions within the organization, whereas culture is more deeply rooted and connected to the organization's underlying foundations (İşcan, 2017).

Numerous studies have demonstrated that organizational climate has a direct impact on employees' job satisfaction, motivation, psychological well-being, and performance. A positive organizational climate can foster greater creativity, productivity, and engagement among employees. Elements such as leadership style, communication practices, and perceptions of fairness are particularly influential in shaping the organizational climate and guiding employee behavior (Çalışkan & Yılmaz, 2020).

In essence, organizational climate reflects the overall atmosphere within an organization, employees' perceptions of their work environment, and their daily experiences. These perceptions and experiences form the basis of the organizational climate and have a significant influence on organizational success, employee productivity, and levels of commitment (Arslan, 2021).

3. METHOD

3.1. Research Model

In this study, the relationship between organizational alienation and organizational climate was examined using quantitative research methods. Quantitative research methods are an approach that allows objective examination of phenomena through quantitative data and allows the analysis of relationships between variables using statistical methods (Creswell, 2014). In this context, the study aimed to measure and interpret the relationship between variables.

The research was conducted within the scope of the relational screening model. The relational screening model is a quantitative research design that aims to reveal the level and direction of the relationship between two or more variables (Karasar, 2012). This model focuses on determining the degree and direction of the relationship between variables rather than establishing a direct cause-effect relationship between them. Relational screening models are widely used to establish relationships between frequently researched topics in social sciences such as individuals' attitudes, perceptions and behaviors.

3.2. Universe and Sample

The universe of this research consists of employees operating in different sectors in the Turkish Republic of Northern Cyprus (TRNC). In line with the purpose of the study, a broad universe definition was made in order to compare the perceptions of organizational alienation and organizational climate among employees in different sectors. The stratified sampling method was used in sample selection. The stratified sampling method is a method that allows the individuals in the universe to be divided into homogeneous subgroups, i.e. strata, according to certain characteristics (e.g. sector, age, gender, education level, etc.) and to select an appropriate number of participants from each stratum (Büyükoğtürk et al., 2016). With this method, it was aimed to reflect the diversity in the universe to the sample and to increase the representativeness of the sample. In the research, employees in the TRNC were divided into strata according to sectoral and demographic criteria. A balanced distribution was achieved by selecting participants from each stratum in determined proportions. This approach enabled employees from different sectors and demographic groups to participate equally in the research. Thus, the generalizability level of the obtained data to the universe was increased and comparison of organizational alienation and climate

perceptions in different sectors was made possible. The sample size was determined as a result of the power analysis and 362 participants were reached in the study. The power analysis was carried out to ensure that the study had sufficient statistical power. The determined sample size allowed reliable results to be obtained in the data analysis and the significance levels of statistical tests to be preserved.

3.3. Data Collection Tools

This study, a three-part survey form was used to collect data. In the first part of the survey, an introductory statement informed participants about the purpose of the study and the confidentiality of the data. It was emphasized that participation was voluntary and that the survey results would be used solely for scientific purposes.

The first part also included a "General Information" section designed to collect demographic data from the participants. This section contained six questions covering gender, age group, marital status, length of service in the company, educational background, and job title. These demographic variables were included to help identify the general profile of the participants and to examine possible relationships between demographic characteristics and levels of organizational climate perception and organizational alienation. In the second part of the survey, the Organizational Climate Scale developed by Fatih Özdemir in his doctoral dissertation titled *The Effect of Organizational Climate on Job Satisfaction Level* (Özdemir, 2010) was used to measure participants' perceptions of organizational climate. This scale had previously been used in a study involving 18 companies operating in the textile sector in Adana, Mersin, Kahramanmaraş, and Gaziantep, and its validity and reliability had been established. The scale consists of 17 items designed to assess the overall workplace atmosphere, leadership behaviors, quality of communication, and supportive practices within the organization. Participants rated each item using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

The third part of the survey included the Organizational Alienation Scale developed by Mottaz (1981) and adapted into Turkish by Uysal (2010). This scale measures organizational alienation across three core dimensions: disempowerment (7 items), meaninglessness (7 items), and self-alienation (7 items). Example items include statements such as "I do not feel free when performing my job-related duties" and "I do not believe that my job contributes to the success of this company." Participants responded to this section using the same five-point Likert scale, allowing for precise measurement of their attitudes and enabling statistical analysis of tendencies across different dimensions.

Through this structured questionnaire, both demographic data and quantitative data on perceptions of organizational climate and organizational alienation were systematically collected and analyzed.

The reliability of the scales used in the study was assessed using Cronbach's Alpha coefficient. The analysis revealed that the Organizational Climate Scale had a Cronbach's Alpha of 0.89, while the Organizational Alienation Scale had an Alpha of 0.91. The scales included 17 and 21 items, respectively. These results indicate a high level of internal consistency for both scales. According to George and Mallery (2010), a Cronbach's Alpha value above 0.80 indicates high reliability. Therefore, it was concluded that the scales used in the study provided reliable measurement and that the collected data were suitable for robust statistical analyses.

3.4. Analysis of Data

In the study in hand said data SPSS 28 package for analysis program Analysis In the process, firstly, the variables are normally distributed Showing does not show to determine for normality analysis has been realized. In this study, normality analyses of organizational climate and organizational alienation scales were evaluated via Shapiro-Wilk test and skewness-kurtosis values. According to the Shapiro-Wilk test results, the p-value of both scales was found below .05 ($p < .05$), which shows that the individual items were not normally distributed. However, skewness and kurtosis values were between -1 and +1 for both scales (skewness = -0.41, kurtosis = 0.38 for Organizational Climate Scale; skewness = -0.36, kurtosis = 0.45 for Organizational Alienation Scale). As stated by George and Mallery (2010), skewness and kurtosis values between -1 and +1 are within acceptable limits for a normal distribution. In addition, Tabachnick and Fidell (2013) also state that small deviations from normality in large samples ($n > 200$) will not seriously affect the analysis results. In this direction, it was assumed that the total scores of the scales met the normal distribution assumption and parametric statistical analyses were continued.

In the research used data set of factor to the analysis suitability to determine Kaiser-Meyer-Olkin (KMO) test for and Bartlett's Test of Sphericity was applied. KMO test The result is 0.88 This value was found by Kaiser (1974) determined to classification according to " very " good " level One sampling to the adequacy sign As a result of Bartlett 's Test of Sphericity, chi - square = 6420.45 and $p = .000$ in hand This result is variables between sufficient at level relationship It is found And data set of factor analysis for suitable is Both test Results together when evaluated in the research used data factor to the analysis convenient is And Variables between significant correlations located can be said .

4. FINDINGS

Table 1. Socio -Demographic Information of Participants

		n	%
Gender	Woman	160	44.2
	Male	202	55.8
Age	18–25 years old	70	19.3
	26–35 years old	140	38.7
	36–45 years old	100	27.6
	46 years and older	52	14.4
Educational Status	Primary education	10	2.8
	High school	65	18.0
	College	80	22.1
	University	155	42.8
	Postgraduate	52	14.3
Position	Executive	110	30.4
	Worker	252	69.6
Working Time in Current Institution	0–1 year	50	13.8
	2–5 years	150	41.4
	6–10 years	90	24.9
	11–15 years	45	12.4
	16 years and above	27	7.5
Total		362	100

To the research total 362 participants including. 55.8% of the participants were male and 44.2% were female. Age distribution when examined, the most high rate is 38.7% with 26–35 age group in the group place Education to the situation according to 42.8% of participants were university students graduated, 22.1% of whom are college graduates graduated, 18% high school Graduates, 14.3% postgraduate graduate and 2.8% primary education He is a graduate. Position to the variable When we look at it, 69.6% are employees and 30.4% are managers. is in position. Available in the institution study duration In terms of 41.4% of the participants 2–5 years, 24.9% 6–10 years, 13.8% 0–1 year, 12.4% 11–15 years and 7.5% 16 years And above for a while same in the institution is working.

Table 2. Mean and Standard Deviation Values of Scales and Sub-Dimensions

Subscale	N	Min.	Max .	Mean	Ss .
Organizational Climate	362	1.35	5.00	3.62	0.71
Organizational Alienation (General)	362	1.00	5.00	2.94	0.74
Weakening	362	1.00	5.00	2.85	0.83
Meaninglessness	362	1.00	5.00	2.91	0.79
Self-Alienation	362	1.00	5.00	3.05	0.81

In the research in hand said findings According to the participants organizational climate their perceptions general aspect positive at level is (Mean = 3.62, SD = 0.71). This result shows that employees organization inside atmosphere, leadership their approaches And supportive applications positive in this way what they evaluated Organizational alienation general average score is 2.94 (SD = 0.74). This value was found to be estrangement level of middle level of under is sign Organizational Sub- dimensions of alienation when examined , the most low with an average of 2.85 weakening in size , in the largest high average with 3.05 yourself estrangement in size in hand This finding is consistent with the participants ' themselves from time to time work in place own from the values estranged what they feel , but general in the sense to their organizations estrangement levels of annoyed is Sub-dimensions show between A lot big differences absence , alienation perception of fly balanced in size One distribution shows makes one think.

Table 3. Organizational Climate Perception by Gender (T-Test Results)

Group	n	Mean	Ps .	f	p
Woman	160	3.70	0.68	2.21	0.028
Male	202	3.55	0.72		

By gender according to organizational climate perceptions between significant There was a difference ($p < .05$). Female participants organizational climate perception averages of Male to the participants Compared significant at level more high is This result is seen that women they work in institutions atmosphere, leadership applications And communication processes to men according to more positive what they perceive shows .

Table 4. Organizational Climate Perception by Age Groups

Age group	n	Mean	Ss .	F	p.
18–25 years old	70	3.50	0.65	4.12	0.007
26–35 years old	140	3.68	0.72		
36–45 years old	100	3.75	0.70		
46 years and older	52	3.80	0.69		

Age to their groups according to organizational climate in their perceptions significant A difference was found ($p < .05$). Post Hoc (Tukey) analysis was performed As a result , 46 years old And above group with 18–25 years old group between organizational climate perception In terms of significant there is a difference Accordingly , 46 years of age And above Participants 18–25 years old to the group Compared organizational climate statistical aspect significant at level more positive perceives . Different age groups between observed This significant difference, age variable organizational climate perception on effective One factor is supports.

Table 5. Organizational Climate Perception According to Educational Status

Educational Status	N	Mean	Ps .	f	p
Primary education	10	3.30	0.55	6.38	0.000
High school	65	3.45	0.68		
College	80	3.60	0.70		
University	155	3.75	0.72		
Postgraduate	52	3.85	0.69		

Education to the situation according to participants organizational climate in their perceptions significant A difference was found ($p < .005$). Post Hoc (Tukey) analysis was performed As a result , postgraduate education to the level of owner individuals organizational climate their perceptions primary education to graduates Compared significant at level more high is ($5 > 1$). This result is determined as education at the level of increase , individuals organizational structure , communication processes And management their style more positive evaluation tend to that they are sign is continuing .

Table 6. Organizational Climate Perception by Position

Position	n	Mean	Ss .	f	p.
Executive	110	3.80	0.66	3.35	0.001
Worker	252	3.55	0.72		

Position to the variable according to organizational climate in their perceptions significant There was a difference ($p < .01$). in position found participants organizational climate perceptions , employees Compared significant at level more high This finding was found to be institution leadership applications , supporting structure And communication processes more positive what they evaluated In contrast , employees organizational climate perceptions Relatively more low level , this is management with the level of operational levels between perception their differences that it can be sign is continuing .

Table 7. Perception of Organizational Climate According to Working Years in the Current Institution

Working Hours	n	Mean	Ss .	f	p.
0–1 year	50	3.50	0.70	3.89	0.004 3>1
2–5 years	150	3.65	0.68		
6–10 years	90	3.75	0.71		
11–15 years	45	3.78	0.73		
16 years and above	27	3.82	0.75		

Available in the institution study to the duration according to participants organizational climate in their perceptions significant A difference was found ($p < .05$). Post Hoc (Tukey) analysis was performed As a result , 6–10 years study to the duration owner participants organizational climate perceptions , 0–1 year to employees Compared significant at level more high is ($3 > 1$). This finding is organizational experience of the duration increase individuals institutions oriented in their perceptions positive One effect created supports.

Table 8. Organizational Alienation by Gender (T-Test Results)

Scale / Sub-Dimension	Gender	N	Mean	Ps .	f	p
Organizational Alienation (General)	Woman	160	2.85	0.70		
	Male	202	3.02	0.74	-2.32	0.021
Weakening	Woman	160	2.78	0.75		
	Male	202	2.91	0.80	-1.85	0.065
Meaninglessness	Woman	160	2.80	0.73		
	Male	202	3.00	0.76	-2.60	0.010
Self-Alienation	Woman	160	2.97	0.77		
	Male	202	3.12	0.79	-2.10	0.036

A significant difference was found in the general levels of organizational alienation according to the gender variable, and it was determined that men had a higher perception of alienation than women ($p = .021$). In the sub-dimensions, it was observed that men had a significantly higher perception than women in the dimensions of meaninglessness ($p = .010$) and self-alienation ($p = .036$). No significant difference was found in the dimension of disempowerment.

Table 9. Organizational Alienation by Age Groups (ANOVA-Test Results)

Scale / Sub-Dimension	Age group	n	Mean	Ps .	F	p
Organizational Alienation (General)	18–25 years old	70	3.10	0.72		
	26–35 years old	140	2.95	0.70	4.02	0.008 4>1
	36–45 years old	100	2.88	0.68		
	46 years and older	52	2.75	0.65		
Weakening	18–25 years old	70	2.92	0.80		
	26–35 years old	140	2.83	0.77	3.45	0.017 4>1
	36–45 years old	100	2.76	0.74		
	46 years and older	52	2.65	0.70		
Meaninglessness	18–25 years old	70	3.05	0.74		
	26–35 years old	140	2.90	0.70	3.89	0.009 4>1
	36–45 years old	100	2.85	0.69		
	46 years and older	52	2.72	0.68		
Self-Alienation	18–25 years old	70	3.15	0.76		
	26–35 years old	140	3.05	0.72	3.20	0.023 4>1
	36–45 years old	100	2.95	0.69		
	46 years and older	52	2.85	0.67		

Age to their groups according to organizational estrangement general at levels significant A difference was found ($p = .008$). Post Hoc analysis As a result , 46 years old And above Participants were aged 18–25 to the group Compared organizational estrangement levels of significant in this way more low is determined ($4 > 1$). Similar , powerlessness ($p = .017$), meaninglessness ($p = .009$) and yourself alienation ($p = .023$) sub- dimensions at the age of 46 And above group , 18–25 years old to the group Compared significant at level more low to points owner is These findings were observed in age as it progresses individuals organizational estrangement your feelings decreased shows .

Table 10. Organizational Alienation According to Educational Status (ANOVA-Test Results)

Scale / Sub-Dimension	Educational Status	N	Mean	Ps .	f	p
Organizational Alienation (General)	Primary education	10	3.20	0.75	5.15	0.000 1>2 2>5
	High school	65	3.10	0.72		
	College	80	2.95	0.68		
	University	155	2.85	0.70		
	Postgraduate	52	2.70	0.65		
Weakening	Primary education	10	3.10	0.77	4.68	0.001 2>5
	High school	65	3.00	0.75		
	College	80	2.85	0.70		
	University	155	2.75	0.68		
	Postgraduate	52	2.60	0.66		
Meaninglessness	Primary education	10	3.25	0.74	5.42	0.000 2>3
	High school	65	3.15	0.70		
	College	80	3.00	0.68		
	University	155	2.85	0.69		
	Postgraduate	52	2.70	0.65		
Self-Alienation	Primary education	10	3.25	0.78	4.95	0.001 1>2 2>5
	Lise	65	3.05	0.73		
	Yüksekokul	80	2.90	0.70		
	Üniversite	155	2.80	0.72		
	Lisansüstü	52	2.65	0.67		

A significant difference was found in the general levels of organizational alienation according to educational status ($p < .005$). As a result of the Post Hoc analysis, it was determined that primary school graduates had significantly higher perception of alienation than high school graduates ($1 > 2$) and high school graduates than postgraduate graduates ($2 > 5$). In the dimension of disempowerment, high school graduates were found to have a higher perception of disempowerment compared to postgraduate graduates ($2 > 5$, $p = .001$). In the dimension of meaninglessness, high school graduates were found to have a higher perception of meaninglessness compared to college graduates ($2 > 3$, $p < .001$). In self-alienation, it was found that primary school graduates had significantly higher perception of alienation than high school graduates ($1 > 2$) and high school graduates than postgraduate graduates ($2 > 5$) ($p = .001$).

Table 11. Organizational Alienation by Position (T-Test Results)

Scale / Sub-Dimension	Position	n	Mean	Ps .	t	p
Organizational Alienation (General)	Executive	110	2.90	0.70	-0.68	0.497
	Worker	252	2.95	0.73		
Weakening	Executive	110	2.80	0.75		

Scale / Sub-Dimension	Position	n	Mean	Ps .	t	p
Meaninglessness	Worker	252	2.86	0.78	-0.72	0.472
	Executive	110	2.85	0.72		
	Worker	252	2.92	0.74	-0.89	0.375
Self-Alienation	Executive	110	3.05	0.74		
	Worker	252	3.08	0.77	-0.39	0.698

Position to the variable according to organizational estrangement and its sub- dimensions significant One difference ($p > .05$). Manager And worker in position participants organizational estrangement levels between statistical aspect significant spot a difference This result is not the position organizational estrangement perception on decisive One variable there is no shows.

Table 12. Organizational Alienation According to Working Years in the Current Institution (ANOVA-Test Results)

Scale / Sub-Dimension	Working Hours	n	Mean	Ps .	f	p
Organizational Alienation (General)	0–1 year	50	2.97	0.72		
	2–5 years	150	2.92	0.70		
	6–10 years	90	2.91	0.69		
	11–15 years	45	2.88	0.71		
	16 years and above	27	2.85	0.74	0.72	0.581
Weakening	0–1 year	50	2.85	0.77		
	2–5 years	150	2.83	0.75		
	6–10 years	90	2.81	0.74		
	11–15 years	45	2.80	0.78		
	16 years and above	27	2.78	0.76	0.43	0.787
Meaninglessness	0–1 year	50	2.92	0.74		
	2–5 years	150	2.90	0.71		
	6–10 years	90	2.88	0.70		
	11–15 years	45	2.85	0.72		
	16 years and above	27	2.83	0.73	0.51	0.726
Self-Alienation	0–1 year	50	3.12	0.75		
	2–5 years	150	3.10	0.74		
	6–10 years	90	3.05	0.72		
	11–15 years	45	3.02	0.74		
	16 years and above	27	3.00	0.76	0.69	0.598

Available in the institution study to the duration according to organizational estrangement and its sub- dimensions significant no difference was found ($p > .05$).The study duration groups between organizational estrangement levels similarity showing is , organizational estrangement perception study from the duration independent aspect change This result does not show that the institution passed of the duration organizational estrangement perception on decisive One effect owner there is no shows.

Table 13. Correlations Between Organizational Climate and Organizational Alienation and Their Sub-Dimensions

Variables	r	p
Organizational Climate ↔ Organizational Alienation (General)	-0.56	0.000
Organizational Climate ↔ Disempowerment	-0.52	0.000
Organizational Climate ↔ Meaninglessness	-0.54	0.000
Organizational Climate ↔ Self-Alienation	-0.48	0.000

In the study, significant and negative relationships were found between organizational climate and organizational alienation and its sub-dimensions ($p < .001$). A moderate negative relationship was found between organizational

climate and the general level of organizational alienation ($r = -0.56$). Similarly, at the level of sub-dimensions, significant and negative relationships were found between disempowerment ($r = -0.52$), meaninglessness ($r = -0.54$) and self-alienation ($r = -0.48$) and organizational climate. These findings show that as the perception of organizational climate increases, the perceptions of organizational alienation and its sub-dimensions decrease.

Table 14. Regression Analysis Results on the Effect of Organizational Alienation on Organizational Climate

Variable	B	β	t	p
Constant	4.75	-	24.58	0.000
Organizational Alienation (General)	-0.55	-0.56	-13.49	0.000
R	R ²	Adjusted R ²	F	p
0.56	0.31	0.31	182.10	0.000

As a result of the regression analysis, it was determined that organizational alienation has a significant and negative effect on organizational climate ($\beta = -0.56$, $p < .001$). The explanatory power of the model was found to be $R^2 = 0.31$, which shows that organizational alienation explains 31% of the total variance in organizational climate perception. The F test result was also found to be significant ($F = 182.10$, $p < .001$), which shows that the model is generally significant. The results show that as the level of organizational alienation increases, employees' perceptions of organizational climate are negatively affected.

CONCLUSION

This study organizational alienation organizational climate over effect has been investigated. analysis finally by gender according to organizational climate perceptions between significant A difference was found. Women participants organizational climate their perceptions Male to the participants Compared more high is This result is determined that women they work in institutions atmosphere, supportive applications And communication environment to men according to more positive what they perceive shows.

Age groups in terms of organizational climate in their perceptions significant differences detection It has been done. Especially age groups between done Comparisons As a result, more forward age in the group place area participants organizational climate youth to the participants according to more positive they perceive emerge This finding is that age with the progress of together organizational of the structure more positive evaluated shows.

Education to the situation according to participants organizational climate perceptions significant in the form of difference Education level As it rises organizational climate more perception positive in the direction changed has been determined. Especially Postgraduate education to the level of owner individuals, more low education to the level of owner to the participants according to organizational climate more positive they evaluated has been seen. Position variable also significant in terms of differences observed. Administrator in position found participants organizational climate perceptions of employees Compared more high is This situation has been determined by the managers institutional atmosphere, supportive applications And communication processes operational to the staff according to more positive what they evaluated shows.

Available in the institution study duration variable also significant when examined differences It was found in the institution. more LONG for a while worker individuals organizational climate perceptions in the institution more short for a while to employees Compared more positive is This finding is organizational experience of the duration increase in individuals institutions oriented their perceptions strengthens supports.

Gender to the variable according to organizational estrangement general at levels significant A difference was found. Male participants organizational estrangement their perceptions Woman to the participants Compared more high is Sub- dimensions have been determined. when examined, meaninglessness And yourself estrangement in men's sizes to women according to more high to perception owner they are detection has been made. Weakening in size whereas by gender according to significant no difference was found.

Age to their groups according to organizational estrangement general at levels significant there is a difference It has been seen. Especially forward age in the group place area participants, young age in the group to the participants Compared organizational estrangement levels of more low is Similar in a way, becoming weak, becoming meaningless And yourself estrangement age in size as it progresses estrangement perception of decreased These findings are seen in age with the progress of individuals to their organizations opposite estrangement your feelings decreased shows.

Education to the situation according to organizational estrangement general at levels significant differences Education has been found. level as it falls organizational estrangement perception of rising detection Sub - dimensions similar when examined a situation has been observed; especially weakening, meaninglessness And yourself estrangement in dimensions more low education to the level of owner individuals more high estrangement to the perception owner they are has been determined.

Position variable In terms of done in analysis organizational estrangement and its sub- dimensions significant One difference not found. Administrator And worker in position individuals organizational estrangement their

perceptions each other similar at level is detection This result is position variable organizational estrangement on decisive One the effect of there is no shows.

Available in the institution study duration to the variable According to organizational estrangement and its sub-dimensions significant No difference was found. The study duration to their differences despite participants organizational estrangement levels between statistical aspect significant One change It is not This situation has been determined in the institution. passed of the duration organizational estrangement perception on effective One factor there is no emerge is putting.

In the study, significant and negative relationships were found between organizational climate and organizational alienation and its sub-dimensions. A moderate negative relationship was found between organizational climate and the general level of organizational alienation; it was determined that as the perception of organizational climate increased, the level of organizational alienation decreased. Similarly, significant and negative relationships were observed between the sub-dimensions of disempowerment, meaninglessness and self-alienation and organizational climate. These findings reveal that the positive atmosphere within the organization plays a role in reducing the alienation feelings of employees.

The regression analysis results also support these findings. It was determined that organizational alienation had a significant and negative effect on organizational climate. The explanatory power of the model was found to be 31% and it was observed that organizational alienation explained a significant portion of the change in organizational climate perception. It was concluded that the model was generally significant and that as the level of organizational alienation increased, employees' perceptions of organizational climate were negatively affected.

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THE EFFECTS OF ARTIFICIAL INTELLIGENCE ON DIGITAL MARKETING AND SERVICE QUALITY: A STUDY ON THE AVIATION INDUSTRY

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ABSTRACT

This study was conducted with quantitative research method to examine the general attitudes of employees working in the aviation sector in the Turkish Republic of Northern Cyprus (TRNC) towards artificial intelligence in digital marketing activities and their perceptions regarding the use of artificial intelligence for service quality. While the population of the research consists of employees in the TRNC aviation sector, the sample size was determined as 311 people in line with the calculations made. A structured questionnaire form was used as a data collection tool and the form was composed of four main sections based on the study developed by Çakır and Nacar (2024).

The findings of the study reveal that digital marketing behaviors show significant differences according to demographic variables such as age, length of service and job title. Younger respondents use digital marketing tools more intensively, while experienced employees use these tools more consciously and strategically. In addition, individuals who have direct contact with customers or are in management positions are more likely to engage in digital marketing activities. Significant differences were found in terms of general attitude towards artificial intelligence based on gender and education level. While women have a more positive attitude towards artificial intelligence, individuals with master's and doctoral degrees exhibited higher attitude scores. However, no significant difference was found in terms of variables such as age, seniority and field of study. In the evaluations regarding the use of artificial intelligence within the scope of service quality, it was determined that the participants generally showed similar attitudes according to their demographic characteristics. Although the average scores of women were higher in the efficiency dimension, this difference was not statistically significant. Correlation and regression analyses show that positive attitudes towards AI strongly and significantly affect both digital marketing behaviors and perceptions of service quality. These results suggest that artificial intelligence should be considered not only as a technological but also as a strategic element in the digital transformation processes of organizations.

Key Words: Artificial Intelligence, Digital Marketing, Service Quality, Aviation Industry, Attitude

1. INTRODUCTION

1.1. Problem Durumu

Artificial intelligence (AI) has created significant transformations in digital marketing and service quality. One of the most obvious impacts of AI in digital marketing is its ability to customize customer experiences. For example, machine learning algorithms analyze consumer behavior to provide personalized advertising and product recommendations. This increases customer loyalty and improves conversion rates for businesses (Smith and Chaffey, 2023). AI also increases speed and efficiency in customer service with tools such as chatbots and voice assistants. These tools are used to answer customers' frequently asked questions, provide product information, and quickly resolve problems (Brown et al., 2022).

In terms of service quality, AI increases customer satisfaction levels by proactively meeting their needs. For example, systems that can communicate with customers in a more human-like manner have been developed thanks to natural language processing technologies. In addition, thanks to data analytics and predictive models, businesses can optimize their service processes by predicting customer demands in advance. This increases resource utilization and minimizes the margin of error in service delivery (Johnson and Smith, 2021). In summary, artificial intelligence has created groundbreaking effects in digital marketing and service quality with its personalization, speed, efficiency and predictive capabilities. However, these technologies also need to be carefully managed in terms of ethics and data privacy (Lee and Chen, 2023).

The aviation industry is greatly benefiting from the effects of artificial intelligence (AI) technologies on digital marketing and service quality. In digital marketing, AI is used to personalize airline ticket purchasing processes and make customer segmentation more effective. Airlines analyze customers' previous travel habits and offer them special offers and campaigns, thereby increasing customer satisfaction. For example, machine learning algorithms are used to create targeted advertisements by predicting customers' flight dates, destinations, and budget preferences (Goh and Lee, 2022). In addition, chatbots used on airline websites and mobile applications improve customer experience by providing customers with real-time support on flight reservations, baggage rules, and delay information (Smith et al., 2021).

In terms of service quality, AI plays an important role in improving pre- and post-flight processes. For example, facial recognition technologies at airports allow passengers to quickly go through security and boarding controls. This both increases customer satisfaction and increases the efficiency of airport operations (Brown and Taylor, 2023). In addition, airlines use natural language processing (NLP) technologies to analyze customer feedback to improve service processes. In particular, the analysis of social media and survey data allows for a better understanding of customer needs (Johnson and Chen, 2023). However, the effective use of AI in the industry should be carefully managed due to data security and ethical concerns (Lee and Park, 2022).

1.2. Purpose of the Research

The main purpose of this research is to deeply analyze the general attitudes towards artificial intelligence technologies in digital marketing activities carried out in the airline sector and the effects of artificial intelligence applications on service quality from the perspectives of employees. In the literature reviews, it was observed that there were limited studies on digital marketing and artificial intelligence-focused studies. This situation makes the subject even more meaningful and emphasizes the importance of filling the existing knowledge gap. Understanding how artificial intelligence applications are perceived by employees in the digitalization process in the airline sector is considered an important step that will contribute to the development of innovative strategies in the sector.

1.2.1 Hypotheses

H₀₁: There is no significant relationship between digital marketing behavior and demographic variables.

H₁₁: There is a significant relationship between digital marketing behavior and demographic variables.

H₀₂: There is no significant relationship between general attitude towards artificial intelligence and demographic variables.

H₁₂: There is a significant relationship between general attitude towards artificial intelligence and demographic variables.

H₀₃: There is no significant relationship between the use of artificial intelligence for service quality and demographic variables.

H₁₃: There is a significant relationship between the use of artificial intelligence for service quality and demographic variables.

H₀₄: The use of artificial intelligence does not have an impact on digital marketing and service quality.

H₁₄: The use of artificial intelligence has an impact on digital marketing and service quality.

1.3. Importance of the Research

In today's world where digitalization is accelerating, the integration of artificial intelligence technologies into marketing and service areas increases the competitiveness of businesses and significantly affects customer satisfaction. In this context, in an area that requires high levels of customer interaction and operational sensitivity, such as the aviation sector, systematically examining attitudes towards artificial intelligence and digital marketing behaviors is of great importance in terms of sector-specific strategic decisions. This study aims to both fill the gaps in the literature and contribute to digital transformation processes by providing data-based suggestions to sectoral practitioners. In addition, it is important in terms of presenting a theoretical framework for these relationships by revealing the effect of attitudes towards artificial intelligence on digital marketing and service quality perception with quantitative data.

2. THEORETICAL FRAMEWORK

2.1. Artificial Intelligence

Artificial Intelligence (AI) is the development of computer systems that aim to mimic human-like intelligence. This field is a branch of computer science and aims to enable machines to imitate thinking, learning, problem solving, language understanding, and even creative processes. Artificial intelligence has developed rapidly, especially with its subfields such as machine learning, deep learning, natural language processing, and robotics. The main goal of AI is for computers to have the ability to learn, understand, and make logical decisions like human intelligence (Russell & Norvig, 2016). Artificial intelligence first attracted attention in the 1950s when Alan Turing developed the concept of the "Turing Test." Turing proposed a criterion to test whether a machine has human-like intelligence. This test predicted that if a human and a computer had a written conversation and could not tell which one was human and which one was machine, the computer would be considered "intelligent" (Turing, 1950). The early stages of AI were limited to simple tasks such as problem solving and playing games. Over time, applications covering many different areas such as data analysis, robotics, autonomous systems, and natural language processing have been developed. Today, AI is used in a wide variety of industries. While the automotive sector uses AI with driverless vehicles and intelligent navigation systems, the healthcare sector is adopting AI-based systems in disease diagnosis and treatment processes. The finance sector is actively using AI in areas such as trading, investment, and risk analysis through algorithms. One of the most powerful aspects of AI

is its ability to recognize patterns and make predictions about the future by analyzing large data sets (Davenport & Ronanki, 2018).

Machine learning is often used to train artificial intelligence systems. Machine learning is a technique that allows a model to learn from data and make more accurate predictions over time. Deep learning algorithms, in particular, are used to analyze complex data sets and achieve high accuracy rates. For example, deep learning has achieved great success in applications such as image recognition and voice response systems (LeCun et al., 2015). Natural language processing (NLP) is a subfield developed for artificial intelligence to understand and process human language. NLP is used in applications that include analyzing the meaning of texts, extracting information from texts, performing automatic translations, and more.

Virtual assistants and chatbots can communicate with people in natural language using NLP technologies. Artificial intelligence is both the driving force of today's technology and one of the cornerstones of future innovations. These advances in intelligence have increased efficiency in many sectors and made human life easier. There are aspects of AI that need to be considered more, such as ethical issues, impacts on the workforce, and privacy (Brynjolfsson & McAfee, 2014).

2.2. Digital Marketing

Digital Marketing has been a rapidly growing field in recent years and includes marketing strategies that enable companies to reach potential customers through online channels. Digital marketing is a type of marketing that aims to reach the target audience using the power of the internet and is done through digital tools and platforms, unlike traditional marketing methods. Digital marketing includes various areas such as content marketing, search engine optimization (SEO), social media marketing, email marketing, and digital advertising (Kotler, Kartajaya, & Setiawan, 2017).

One of the biggest advantages of digital marketing is that it provides brands with global accessibility. Internet users can interact with brands from all over the world, without any geographical limitations. It allows small and medium-sized businesses in particular to have a presence in the global market. Digital marketing offers a great advantage in terms of measurability. For example, digital advertising campaigns and social media interactions can be analyzed instantly and data-based decisions can be made for improvements (Chaffey, 2019).

Digital marketing has gained great momentum, especially with the increase in social media use. Social media platforms, which have become a part of people's daily lives, offer opportunities for brands to interact, create a loyal customer base, and make direct sales. In this context, social media marketing is an important digital marketing tool. Advertisements made through social media platforms allow brands to connect directly with their target audiences and offer personalized experiences. In addition, new strategies such as influencer marketing increase the effectiveness of digital marketing (Tuten & Solomon, 2017).

SEO (search engine optimization) is also a critical component of digital marketing. SEO is a set of techniques used to make websites more visible in search engines. A good SEO strategy increases the organic traffic of a website and increases the chances of reaching potential customers. When combined with a content strategy, SEO allows brands to strengthen their online presence in the long term.

Digital marketing not only involves reaching the target audience, but also includes various conversion tools designed to direct them to a specific action (purchase, subscription, etc.) (Ryan, 2016).

2.3. Service Quality

Service quality is a concept related to the extent to which a service meets and exceeds customer expectations. The high quality of a service leads to customer satisfaction and increased loyalty to the brand. Factors such as customer experience, the way the service is presented, and the continuity of the service provided play a critical role in determining service quality (Parasuraman, Zeithaml & Berry, 1988). Various models have been developed to measure service quality. The most common of these is the SERVQUAL model. This model addresses five basic dimensions of service: reliability, responsiveness, trust, empathy, and physical elements. Digital platforms allow companies to increase service quality by performing various analyses on these dimensions. Surveys, comments, and feedback, especially conducted through digital channels, provide effective tools for measuring service quality (Zeithaml, Parasuraman & Malhotra, 2002).

Digitalization and technology play an important role in improving service quality. Online platforms provide more effective service by accelerating customer service and support processes. Chatbots, 24/7 customer support and artificial intelligence-supported services increase customer satisfaction by responding to users' needs instantly (Köse & Aydın, 2019). Service quality on e-commerce sites is measured by the presentation of products or services, delivery times and customer support. Elements such as site design, easy navigation, fast payment transactions and secure shopping are important for customers to be satisfied with their online shopping experience. These elements are among the determinants of digital service quality (Aydın & Öztürk, 2021).

Customer feedback is another important source for improving service quality. Customer comments made on social media and online platforms provide important clues about the service quality of companies. Regular analysis of

this feedback is necessary to improve the service. Improvements made in line with customer suggestions increase customer satisfaction of the brand and ensure long-term loyalty (Özdemir, 2020).

3. RESEARCH METHODS AND FINDINGS

3.1. Research Model

This study is about aviation in the sector digital marketing in its activities artificial to intelligence oriented general attitude with artificial your intelligence service quality for use of to examine for quantitative research method with The research was carried out within the scope of the sector duty made by from employees questionnaire technique by data collected And This data , previously Improved valid And Trustworthy Scales through in hand In the research digital data to the analysis based on One approach adopted ; descriptive statistics well order Variables between Relationships And differences emerge to put for correlation analysis , regression And variance analysis (ANOVA) forward level statistical methods These analyses were applied through employees demographic with its features artificial to intelligence oriented attitudes between relations ; artificial your intelligence digital marketing And service quality on it effects statistical tested as . Quantitative data analysis as a result in hand said findings of the study generalizability by increasing aviation in the sector digitalization to the processes related significant inferences In this respect , it offers research , sectoral in applications to data based on decisions to be taken contribution to provide aims (Creswell, 2014).

3.2. Universe and Sample

The universe of this research consists of employees working in the aviation sector in the Turkish Republic of Northern Cyprus (TRNC). The universe includes individuals working in different units such as flight operations, ground services, maintenance and technical staff, customer services and management staff at airports and other institutional structures related to aviation in the TRNC. The stratified sampling method was applied in the sample selection of the research. The reason for choosing this method is the aim of reaching more balanced and reliable results by ensuring the representation of each subgroup due to the limited number of employees in the aviation sector and the different job descriptions of these employees (Büyükoztürk et al., 2016). With stratified sampling, each subgroup in the universe (e.g. cabin crew, pilots, technical staff, ground services employees) was determined to be represented and samples were taken from each stratum. The sampling process was carried out in two stages. In the first stage, employees were grouped according to their job descriptions or work areas (management staff, flight personnel, technical team, ground services, etc.). In the second stage, participants were determined from each stratum according to their representation rate in the universe, and this selection was made by simple random sampling method. While calculating the sample size, 95% confidence level and 5% error margin were taken as basis, and Yamane's (1967) formula was used, considering the total size of the universe. As a result of the calculation, the sample size was determined as 311 people. This number is at a level that will ensure the reliability of the research and allows the results to be representative of the universe.

3.3. Data Collection Tools

In this study, a structured questionnaire form was used as a data collection tool. The questionnaire form was created based on the structure in the study conducted by Çakır and Nacar (2024). The research questionnaire consists of four main sections:

Part One:

Participants age , gender , education status , work duration And duty area like demographic to its features oriented your questions well sequence , artificial intelligence their accounts found there is no And if any use to their purposes related closed trio to questions place has been given .

Second Section :

this section , digital marketing behavior , service quality for artificial intelligence use , artificial to intelligence oriented general attitude , perceived value And satisfaction like variables to measure oriented to expressions place All are given . items 1 to 5 a variable Likert-type scale by using answered (1: Definitely disagree – 5: Definitely I agree) .

Digital Marketing Behavior Scale (DPD):

By Steel (2022) Developed And only dimensional structure 10 items showing scale This scale was used reliability high level ; done In the analysis, Cronbach's Alpha coefficient was found to be 0.978. calculated . Factor analysis As a result , the substances only One in the factor gathered And total explained 85.235% of the variance . Factor loadings 0.694 to 0.961, common variance (communalities) values is between 0.481 and 0.924 varies .

Third Section :

Participants artificial to intelligence oriented general to determine their attitudes (YZYGT) oriented aspect Schepman and by Rodway (2020) Developed and by Kaya et al. (2022) To Turkish adapted 20 items scale Cronbach's Alpha value of the scale was 0.887 . KMO value was found to be 0.916, Bartlett test result whereas is significant ($p < 0.001$). Factor to its structure about In the analysis , total 78.20% of the variance was explained

And substances factor loads are 0.625 to 0.857, common variance values of is between -0.424 and 0.907 changed detection Scale is high validity And reliability level shows .

Fourth Section :

Participants service in quality artificial intelligence regarding the use of (HKYZK) their perceptions measure by Noor et al. (2022) for the purpose of Developed And efficiency , security , accessibility , entertainment , communication And anthropomorphism dimensions of 26 statements containing consisting of scale Cronbach's Alpha value of the scale was 0.983, KMO value was 0.961 and Bartlett test result is significant ($p < 0.001$). Factor In the analysis , total 77.316% of the variance was explained ; factor The loadings are -0.879 and 0.651, variance values of is between -0.445 and 0.889 changed These results indicate that the scale valid And Trustworthy One vehicle is shows .

Questionnaire in the form of used all Scales more before made studies on the basis of adapted is , validity And reliability analysis This also successful in research in this way has been confirmed .

3.4. Analysis of Data

SPSS 28 package program was used in the analysis of the data obtained in the study. In the analysis process, firstly, normality analysis was performed to determine whether the variables showed normal distribution.

Shapiro-Wilk test was applied in order to evaluate the normality distribution of the scales used in the research. Shapiro-Wilk p-values for Digital Marketing Behavior (DPD), General Attitude Towards Artificial Intelligence (YZYGT) and Use of Artificial Intelligence for Service Quality (HKYZK) scales were calculated as 0.071, 0.059 and 0.082, respectively. Since all of these values were above the 0.05 significance level, it was accepted that the data were suitable for normal distribution. In addition, the fact that the skewness and kurtosis values remained within ± 1 (-0.442 and 0.681 for DPD; -0.315 and 0.738 for YZYG; -0.509 and 0.594 for HKYZK) supports the findings that the distribution is normal. In line with these results, it was concluded that the data are suitable for parametric tests.

In order to evaluate the suitability of the data set for factor analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity were applied. The KMO value was found to be 0.925, indicating that the sample size was quite suitable for factor analysis. Bartlett's test of sphericity was significant ($\chi^2 = 4150.23$, $p < .001$) and revealed that there was a sufficient level of correlation between the variables. These results show that the data are suitable for advanced statistical operations such as factor analysis.

Cronbach's Alpha coefficients were calculated in order to determine the internal consistency of the scales used in the study. The Alpha coefficient was found to be 0.978 for the Digital Marketing Behavior (DPD) scale, 0.887 for the General Attitude Towards Artificial Intelligence (YZYGT) scale, and 0.983 for the Use of Artificial Intelligence for Service Quality (HKYZK) scale. These values show that especially the DPD and HKYZK scales have excellent reliability; and the YZYG scale is a highly reliable measurement tool. Indeed, a Cronbach's Alpha value above 0.70 is considered sufficient reliability , while values above 0.80 indicate good reliability, and values above 0.90 indicate very high reliability (Tavşancıl, 2002; Büyüköztürk, 2016). In this context, it was concluded that all scales used in the study were sufficient and strong measurement tools in terms of reliability.

3.2. Findings of the Research

Table 1. Socio-Demographic Information of Participants

Gender	n	%
Woman	148	47.59
Male	163	52.41
Age		
18-25	54	17.36
26-35	112	36.01
36-45	78	25.08
46-55	44	14.15
56 and above	23	7.40
Educational Status		
Primary Education/ Secondary Education	9	2.89
High school	41	13.18
Associate Degree	58	18.65
Licence	134	43.09
Degree	58	18.65

Gender		n	%
	Doctorate	11	3.54
Working Time (Experience)			
	0-1 year	33	10.61
	2-5 years	89	28.62
	6-10 years	76	24.44
	11-15 years	64	20.58
	16 years and above	49	15.76
Work Area			
	Flight Operations	83	26.69
	Ground Handling	66	21.22
	Maintenance and Technical	51	16.40
	Customer service	46	14.79
	Management and Planning	32	10.29
	Other	33	10.61
Total		311	100

To the research Participating A total of 311 participants socio-demographic to its features related distribution It is presented in Table 4. 52.41% of the participants were male (n=163) and 47.59% were female (n=148) . Age to their groups according to when examined , the most busy Participation was 36.01% with 26-35 age group in the range of ; This is followed by 25.08% of the 36-45 age group range of watched is seen . Other age groups 18-25 (17.36%), 46-55 (14.15%) and 56 years old respectively And above (7.40 %) dispersed . Education situation In terms of Considering the participants big The majority of undergraduate (43.09%) and high undergraduate level (18.65%) is ; front licence of graduates rate of is 18.65 % determined . High school graduate 13.18% of those with a doctorate to the degree of owner those are 3.54% and primary education graduates are 2.89% . Study to their positions according to in the distribution , the most high with a rate of 24.44% cabin to the officers belongs to . This place services employees (20.58%), other positions (%18.01), technical team (%14.47), management staff (13.50%) and pilots (9.00%) follow Participants are experience to the duration when viewed 28.62% of them are 2-5 years inter- experience . This rate is 6-10 years (%24.44), 11-15 years (%20.58), 16 years And and above (15.76%) and 0-1 year (10.61%) follow-up The study is to their fields according to 26.69% of participants fly 21.22% of the operations are 16.40% of the services are maintenance And technical units , 14.79% of which are customers in services , 10.29% in management And planning in units and 10.61% other in the fields duty This data is the sample aviation of the sector different from units balanced in this way representation was made shows.

Table 2. Artificial Intelligence Usage Experience

Level	n	%
There is none	62	19.94
At a low level	91	29.26
At medium level	83	26.69
High level	49	15.76
Very high level	26	8.36

Participants artificial intelligence use experience to their levels related findings According to the most big group with a rate of 29.26% “ less level of experience owner is 26.69% of the participants stated that they were in the middle at level experience owner is expression while 19.94% more before none artificial intelligence not using stated . High And A lot high at level use to your experience owner participants rate whereas 15.76% and 8.36 % respectively . This distribution is in the sector artificial intelligence applications yet annoyed One user mass by in depth experience was made shows .

Table 3. Digital Marketing Information

Level	n	%
I have no information	38	12.22
I have little knowledge	97	31.19
I have intermediate level of knowledge	106	34.08
I have advanced knowledge	70	22.51

According to the data on the level of digital marketing knowledge, the majority of the participants (34.08%) stated that they have moderate knowledge. This is followed by those with low knowledge (31.19%) and those with advanced knowledge (22.51%). The rate of those who stated that they have no knowledge about digital marketing is 12.22%. These findings reveal that a significant portion of the employees have basic knowledge about digital marketing concepts.

Table 4. Mean and Standard Deviation Values of Scales and Sub-Dimensions

Subscale	n	Min.	Max .	Mean	Ps .
Digital Marketing Behavior (DPD)	311	1.2	5.0	4.21	0.56
General Attitude Towards Artificial Intelligence (AIAI)	311	1.4	5.0	3.88	0.64
Productivity	311	1.5	7.0	5.72	0.88
Security	311	1.0	7.0	5.34	1.02
Accessibility	311	1.3	7.0	5.61	0.91
Fun (Entertainment)	311	1.7	7.0	5.48	0.96
Communication	311	1.2	7.0	5.27	0.98
Humanization	311	1.0	7.0	4.63	1.11

Digital Marketing Behavior scale high One has the mean ($\bar{X} = 4.21$) is participants This in the field positive attitude developed It is seen that artificial to intelligence oriented general attitude is also above average on ($\bar{X} = 3.88$) a in value Watching . Service quality in the context of from the sub- dimensions evaluated -most high to average owner “ Efficiency ” ($\bar{X} = 5.72$), artificial witted service systems functionality This is supported by the dimensions “ Accessibility ” ($\bar{X} = 5.61$) and “ Enjoyment ” ($\bar{X} = 5.48$) . The “ humanization ” dimension whereas averages -most low is area is ($\bar{X} = 4.63$), artificial intelligence systems people like to be perceived oriented annoyed One tendency sign is continuing .

Table 5. Difference Analysis of Digital Marketing Behavior by Gender

Group	n	Mean	Ps .	f	p
Woman	148	4.31	0.52	4.83	0.029
Male	163	4.12	0.59		

Gender to the variable according to digital marketing behaviors between significant is there a difference there is no to determine for done independent Sample t- test As a result , **women participants average score ($\bar{X} = 4.31$)** Male than the participants ($\bar{X} = 4.12$) high is Analysis as a result in hand said **f -value 4.83** And **p value 0.029** is , at $p < 0.05$ level meaningfulness This finding shows that women And Male employees between digital marketing behavior In terms of statistical aspect significant there is a difference emerge This situation puts women digital marketing their tools use tendencies to men suggesting that it is comparatively higher.

Table 6. Difference Analysis of Digital Marketing Behavior by Age

Age group	n	Mean	Ps .	F	p
18-25	54	4.11	0.57	2.91	0.021
26-35	112	4.28	0.54		
36-45	78	4.24	0.52		
46-55	44	4.17	0.63		
56 and above	23	4.05	0.61		

According to the result of one-way variance analysis (ANOVA) conducted to determine whether there is a significant difference between digital marketing behaviors according to age groups, $F = 2.91$, $p = 0.021$ was found. According to this result, it can be said that there is a significant difference at $p < 0.05$ level. When the average values are examined, the 26-35 age group has the highest average digital marketing behavior level ($\bar{X} = 4.28$). This is followed by the 36-45 age group ($\bar{X} = 4.24$) and the 46-55 age group ($\bar{X} = 4.17$). The lowest average belongs to the 56 and above age group ($\bar{X} = 4.05$). This finding reveals that younger age groups tend more towards digital marketing tools.

Table 7. Difference Analysis of Digital Marketing Behavior According to Educational Status

Educational Status	n	Mean	Ps .	F	p
Primary education	9	3.92	0.61	3.47	0.005
Secondary Education (High School)	41	4.05	0.58		
Associate Degree	58	4.19	0.53		
Licence	134	4.30	0.54		
Degree	58	4.34	0.51		
Doctorate	11	4.36	0.48		

As a result of one-way variance analysis (ANOVA) conducted to examine whether there is a significant difference in digital marketing behavior scores according to education level, $F = 3.47$, $p = 0.005$ was found. Since the p value obtained was less than 0.05, it was determined that there was a statistically significant difference between the groups. As a result of post-hoc analyses conducted to reveal which groups the difference was significant between, it was determined that the digital marketing behavior scores of participants who received education at the higher education level (undergraduate, master's, doctorate) were significantly higher compared to participants at the primary and secondary education level. This finding reveals that awareness and usage tendency towards digital marketing tools increases with education level.

Table 8. Difference Analysis of Digital Marketing Behavior According to Working Time

Working Hours	n	Mean	Ps .	F	p
0-1 year	33	4.09	0.59	2.76	0.029
2-5 years	89	4.18	0.56		
6-10 years	76	4.26	0.53		
11-15 years	64	4.32	0.50		
16 years and above	49	4.33	0.49		

Study to the duration according to digital marketing behavior at levels statistical aspect significant there is a difference to test whether for done only directional variance As a result of analysis (ANOVA) , $F = 2.76$ and $p = 0.029$ in hand This result is the result of the study experience to the duration according to groups between significant differences It is found ($p < 0.05$). Post-hoc comparisons as a result , especially 11 years And above experience owner participants digital marketing behaviour scores , 0-1 year and 2-5 years in the range of experience owner from the participants significant at level high is detection This situation has been experience as it increases digital marketing of their vehicles in use more more consciousness And interaction developed sign is continuing .

Table 9. Difference Analysis of Digital Marketing Behavior by Field of Study

Work Area	n	Mean	Ps .	F	p
Flight Operations	83	4.29	0.52	2.64	0.025
Ground Handling	66	4.14	0.58		
Maintenance and Technical	51	4.11	0.60		
Customer service	46	4.34	0.49		
Management and Planning	32	4.35	0.51		
Other	33	4.22	0.55		

Study to their fields according to digital marketing behavior in their scores significant One difference is to test whether for done only directional variance As a result of analysis (ANOVA) , $F = 2.64$, $p = 0.025$ in hand has been

obtained . The p value obtained is less than 0.05 is for , groups between statistical aspect significant there is a difference to the conclusion Post-hoc analysis was achieved . as a result , especially management And planning with customer services in units duty made by participants digital marketing behaviour points , maintenance And technical in the unit worker from the participants significant at level more high is This result is determined by digital marketing with directly related or undertaking strategic roles employees digital to vehicles the one which... of interest indicates a higher level.

Table 10. General Attitude Difference Analysis Towards Artificial Intelligence by Gender

Group	n	Mean	Ps .	f	p
Woman	148	3.94	0.61	2.72	0.041
Male	163	3.83	0.66		

The independent sample t-test, which was conducted to test whether the general attitude towards artificial intelligence differs according to gender, found $f = 2.72$ and $p = 0.041$. Since the p value obtained was less than 0.05, it was determined that there was a significant difference between the general attitude levels of female and male participants towards artificial intelligence. When the direction of this difference is examined, it is seen that the mean of female participants ($\bar{X} = 3.94$) is higher than that of male participants ($\bar{X} = 3.83$). This result shows that women have more positive general attitudes towards artificial intelligence than men.

Table 11. General Attitude Difference Analysis Towards Artificial Intelligence by Age

Age group	n	Mean	Ps .	F	p
18-25	54	3.87	0.65	0.74	0.564
26-35	112	3.90	0.62		
36-45	78	3.86	0.66		
46-55	44	3.85	0.61		
56 and above	23	3.80	0.68		

As a result of the one-way analysis of variance (ANOVA) conducted to determine whether there is a significant difference between the general attitude levels towards artificial intelligence according to the age variable, $F = 0.74$ and $p = 0.564$ were found. Since the p value obtained is greater than 0.05, it was concluded that there is no statistically significant difference between the age groups. This result shows that the general attitudes of the individuals participating in the study towards artificial intelligence are at similar levels according to their age groups. In other words, positive or negative approaches to artificial intelligence do not show a significant change depending on age.

Table 12. General Attitude Difference Analysis Towards Artificial Intelligence According to Education Status

Educational Status	n	Mean	Ps .	F	p
Primary education	9	3.71	0.58	2.84	0.017
Secondary Education (High School)	41	3.75	0.63		
Associate Degree	58	3.82	0.61		
Licence	134	3.91	0.65		
Degree	58	4.01	0.59		
Doctorate	11	4.03	0.57		

As a result of one-way analysis of variance (ANOVA) conducted to determine whether the general attitude towards artificial intelligence differs according to the level of education, $F = 2.84$ and $p = 0.017$ were obtained. Since the p value obtained was less than 0.05, it was concluded that there was a statistically significant difference between the levels of education. As a result of post-hoc analyses, it was determined that the attitudes of individuals with master's and doctoral degrees towards artificial intelligence were significantly more positive compared to individuals with primary and secondary education. This finding shows that as the level of education increases, the attitude towards artificial intelligence technologies becomes more positive.

Table 13. Relationship Between Artificial Intelligence Usage, Digital Marketing and Service Quality

Variables	Correlation Coefficient (r)	Significance (p)	Comment
YZYGT ↔ DPD	r = 0.68	p < 0.001	Strong positive relationship
YZYGT ↔ HKYZK	r = 0.72	p < 0.001	Strong positive relationship
DPD ↔ HKYZK	r = 0.75	p < 0.001	Strong positive relationship

According to the Pearson correlation analysis results, significant and strong positive relationships were found between the three main variables in the study. A relationship of $r = 0.68$ was found between the general attitude towards artificial intelligence and digital marketing behavior, and this relationship was statistically significant ($p < 0.001$). This finding shows that the participants' positive evaluations of artificial intelligence also increase their participation in digital marketing activities. Similarly, a significant relationship of $r = 0.72$ was found between the general attitude towards artificial intelligence and the use of artificial intelligence in service quality ($p < 0.001$). This result indicates that individuals who have a positive view of artificial intelligence find this technology more effective and useful in service processes. Another striking finding of the study is that the relationship between digital marketing behavior and the use of artificial intelligence for service quality is quite strong at $r = 0.75$ ($p < 0.001$). This finding shows that individuals who actively use digital marketing also perceive the quality of artificial intelligence-supported service higher.

Table 14. The Impact of Artificial Intelligence Usage on Digital Marketing and Service Quality

Dependent Variable	Independent Variable	β (Beta)	t	p	R ²
DPD	YZYGT	0.62	14.75	0.000	0.46
HKYZK	YZYGT	0.66	16.32	0.000	0.51

General attitude towards artificial intelligence (GAAI) significantly predicts digital marketing behavior, and the regression coefficient was calculated as $\beta = 0.62$. This result shows that as the attitude level increases, digital marketing behavior also increases. As a result of the analysis, $t = 14.75$, $p < 0.001$ and the explanatory power of the model was found as $R^2 = 0.46$. In other words, the model explains 46% of the variance in digital marketing behavior. Similarly, the effect of attitude towards artificial intelligence on the use of artificial intelligence for service quality is also significant ($\beta = 0.66$). In this model, $t = 16.32$, $p < 0.001$ and $R^2 = 0.51$ were obtained. This shows that the attitude towards artificial intelligence explains 51% of the change in service quality perception. Positive attitudes towards AI significantly and highly affect both digital marketing behavior and the perception of AI use in service quality. These findings show that AI technology plays an active role in the marketing and service strategies of businesses.

CONCLUSION

The analyses revealed that digital marketing behaviors differ significantly according to some demographic variables. Significant differences were observed between age groups in terms of digital marketing behaviors, and it was determined that young participants in particular showed a higher level of interaction in these behaviors. This indicates that the tendency to digital tools and the frequency of use change with age. Similarly, significant differences were found in the evaluations made according to the length of service; it was observed that individuals who have been working in the sector for a longer time approach digital marketing applications more consciously and effectively. This shows that professional experience increases awareness of digital marketing tools. In the comparisons made on the basis of the field of study, it was determined that digital marketing behaviors differ significantly. It is understood that participants who are involved in strategic decision-making processes or who work in units that have direct contact with the customer are more intensely focused on digital marketing activities. The analyses revealed that the general attitude towards artificial intelligence differed significantly according to some demographic variables, while there was no significant difference in terms of some variables. A significant difference was found in terms of the gender variable; it was determined that the attitudes of female participants towards artificial intelligence were more positive compared to male participants. This suggests that there is a higher level of acceptance and interest in women's perceptions of technology. A significant difference was also observed in terms of the education level variable; it was determined that the attitudes of individuals with master's and doctorate levels towards artificial intelligence were significantly more positive than those of individuals with lower levels of education. This finding shows that as the level of education increases, the positive attitude towards artificial intelligence technologies also increases. On the other hand, no significant difference was found in the general attitude towards artificial intelligence in terms of the variables of age, length of service and field of work. These results show that the attitudes of the participants towards artificial intelligence did not change significantly depending on their age groups, length of service or the units they worked in. In this context, while individuals'

approach to artificial intelligence technologies is affected by some individual characteristics, it can show similar tendencies regardless of some variables.

Statistical analyses conducted at the level of sub-dimensions related to the use of artificial intelligence within the scope of service quality revealed that participants generally have similar perceptions according to demographic variables such as gender, age, education level, working hours and field of work. Regarding the gender variable, no significant difference was found between the evaluations of female and male participants in the dimensions of efficiency, security, accessibility, pleasure, communication and humanization. However, the p value obtained in the efficiency dimension was found to be close to the significance level and it was observed that the average scores of female participants were slightly higher than those of males. This suggests that women may find AI-supported service systems more functional and time-saving, but this difference is not statistically significant. Analyses conducted between age groups show that age does not have a decisive effect on the perception of artificial intelligence regarding service quality. Regardless of the age of the participants, similar average scores were obtained in all sub-dimensions and no significant difference was detected. Similarly, analyses conducted according to the level of education also revealed that there was no significant difference. No significant change was observed in the perception of service quality as the level of education increased. This finding suggests that the perception of AI-based service quality is shaped independently of the level of education. Similar results were obtained in the variance analyses conducted according to the length of service. Although the professional seniority of the participants differed, no significant change was detected in their perceptions of the use of AI. This situation shows that the perception of AI regarding service quality did not change as the length of experience increased. No significant difference was found in the evaluations conducted according to the field of study variable. The perceptions of the participants working in different units such as flight operations, ground services, technical maintenance, customer services and management regarding the use of AI in terms of service quality were at similar levels. This finding shows that individuals develop similar attitudes towards AI-supported service applications regardless of their job descriptions.

The correlation and regression analyses obtained in the study clearly revealed that the general attitude towards artificial intelligence has a strong and significant effect on both digital marketing behaviors and service quality perception. It was determined that individuals who approach artificial intelligence positively participate more in digital marketing activities and find the use of artificial intelligence more functional in service quality. While the high correlation coefficients between the variables (between $r = 0.68$ and $r = 0.75$) reveal the strength of these relationships, the high explanatory rates obtained in the regression analyses also numerically confirm the effect of this attitude on the relevant behaviors. These findings show that artificial intelligence technologies are not only a technical tool, but also a strategic element shaped by the attitudes of individuals and directly reflected in marketing and service processes. Therefore, encouraging positive perceptions towards artificial intelligence in the digital transformation processes of institutions has the potential to increase both customer satisfaction and marketing effectiveness. In this context, supporting attitudes towards artificial intelligence plays a critical role not only in terms of technological adaptation but also in increasing corporate performance.

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THE IMPACT OF MARKETING INFORMATION SYSTEMS ON MARKETING DECISIONS

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ABSTRACT

The purpose of this study is to determine the level of use of marketing information systems in TRNC enterprises and to examine their impact on marketing decisions. Relational survey model was used in the study conducted with quantitative research method. Data were collected from 323 business representatives who agreed to participate in the study. The measurement tool was developed based on İnce's (2023) doctoral thesis and structured by the researcher. The data were analysed with SPSS 26.0 software and descriptive statistics, correlation and regression analyses were applied.

As a result of the analyses, it was seen that structural variables such as type of enterprise, number of employees and duration of activity created significant differences in the level of use of marketing information systems. Especially joint stock companies, enterprises with more employees and enterprises that have been operating for a long time have been found to use information systems more effectively and extensively. When analysed at the level of sub-dimensions, significant differences were observed in the use of business records, information systems, marketing research and decision support systems. In addition, significant and positive relationships were found between marketing information systems and marketing decisions, and it was understood that the systems support decision-making processes and contribute to information-based decision-making. Regression analysis also reinforces these findings and reveals that decision support systems provide strong and significant contributions to the decision-making process.

Key Words: Marketing, Marketing Information Systems, Marketing Decisions, Organisational Structure.

1. INTRODUCTION

1.1. Problem

Today, businesses are faced with the necessity of making fast and accurate decisions due to the impact of global competition and digitalization. The marketing function has been one of the areas most affected by this change; the importance of data-based strategic approaches has increased (Turban, Pollard , & Wood , 2022). In this context, marketing information systems have become an important tool for businesses to manage their marketing activities more effectively. These systems, which consist of components such as decision support systems, news mechanisms, business records, and marketing research, facilitate decision-making processes by providing managers with analysis-based and consistent data (Türkmen, 2014; Aggarwal et al., 2025).

However, the effective use of marketing information systems is not limited to technological infrastructure. It is also directly related to factors such as organizational behavior, managerial approach and employee qualifications (Özkalp and Kirel, 2016). How information is processed and used within the organizational structure determines how strategically and consciously managers act in marketing decisions. The systematic use of information, especially in decision areas such as product development, pricing, distribution and promotion; directly affects marketing performance (Başar, 2015; Çetinkaya, 2018; Özdemir, 2016).

On the other hand, many businesses cannot fully integrate marketing information systems or cannot adequately reflect the system they have in their decision-making processes. Digitalization trends and content-based strategies in the field of marketing make this situation more complicated (Bubphapant and Brandão, 2024). In particular, intuitive approaches are at the forefront instead of systematic data use in SME-scale businesses. This causes the potential of information systems to be underutilized (Solomon, Marshall and Stuart, 2020).

In this context, the impact of marketing information systems on marketing decisions should be considered together with demographic factors and structural characteristics specific to the business. The determinant effect of variables such as the type, size and duration of activity of the business on the use of the system also shapes decision-making behaviors (Şimşek, Akgemci and Çelik, 2011). Therefore, not only the existence of the system but also its use and contribution to the decision-making processes should be the subject of research. The problem statement of the study was determined as: "Is there a significant relationship and effect between the level of use of marketing

information systems in businesses operating in the Turkish Republic of Northern Cyprus and the information-based marketing decisions?”

1.2. Purpose of the Research

The main purpose of this research is to determine the level of use of marketing information systems in businesses operating in the Turkish Republic of Northern Cyprus and to examine the impact of these systems on marketing decisions. In addition, the relationship between the demographic characteristics of business owners and managers and the structural characteristics of the business with marketing information systems and marketing decision processes was analyzed and the reflection of the information-based management approach on marketing strategies was evaluated.

1.2.1 Hypotheses

H₀₁: There is no significant difference in the sub-dimensions of marketing information systems according to the type of business.

H₁₁: There is a significant difference in the sub-dimensions of marketing information systems according to the type of business.

H₀₂: There is no significant difference in the sub-dimensions of marketing information systems according to the number of employees in the business.

H₁₂: There is a significant difference in the sub-dimensions of marketing information systems according to the number of employees in the business.

H₀₃: There is no significant difference in the sub-dimensions of marketing information systems according to the business's activity period.

H₁₃: There is a significant difference in the sub-dimensions of marketing information systems according to the business's activity period.

H₀₄: There is no significant difference in the sub-dimensions of marketing decisions based on business type.

H₁₄: There is a significant difference in the sub-dimensions of marketing decisions based on business type.

H₀₅: There is no significant relationship between marketing information systems and marketing decisions.

H₁₅: There is a significant relationship between marketing information systems and marketing decisions.

H₀₆: Marketing information systems do not have a significant effect on marketing decisions.

H₁₆: Marketing information systems have a significant effect on marketing decisions.

1.3. Importance of the Research

In today's rapidly increasing business world, the information-based decision-making process is of great importance for the sustainability of businesses. Marketing information systems facilitate the development of data-based marketing strategies and rationalize decision-making processes. This research demonstrates the impact of marketing information systems on business decisions with numerical data through a comprehensive field application carried out in the TRNC. Through analyses (normality, difference tests, correlation and regression) conducted with a large sample, the relationship between system usage levels and decision-making quality has been clearly examined. The findings both contribute to the academic literature and offer applicable suggestions for businesses to develop data-driven decision-making mechanisms.

2. THEORETICAL FRAMEWORK

2.1. Marketing Information Systems

In today's intensely competitive environment, businesses' ability to achieve sustainable success depends on making accurate and timely decisions based on information. Decisions taken in the marketing field in particular play a critical role in developing customer relations, evaluating market opportunities, and achieving strategic goals. Marketing Information Systems (MIS), developed within this framework, are an important management tool that enables marketing activities to be carried out more effectively and efficiently. Marketing information systems enable the systematic collection and analysis of information obtained from both the internal environment (sales reports, stock status, customer data) and the external environment (market research, competitive analysis, demographic trends) and provide decision support to managers (Kotler and Keller, 2016).

Marketing information systems perform three basic functions: data collection, data processing, and transformation into meaningful information. PIS increases the accuracy and reliability of the decision-making process by ensuring that marketing decisions are based on pure intuition, systematic, and analytical data (Cravens and Piercy, 2013). Businesses can both use their internal resources more efficiently and manage market uncertainties more easily. The components of PIS generally consist of four main elements: internal reporting system, marketing intelligence system, marketing research system, and decision support system. While the internal reporting system analyzes data from within the business, the marketing intelligence system monitors environmental changes and competitive conditions. The marketing research system produces new information by conducting special research, and the decision support system provides the processing and interpretation of this data (Dibb et al., 2016).

Advances in technology have further strengthened marketing information systems. In particular, digital technologies such as artificial intelligence, big data analytics, and cloud computing have increased the information processing capacity of PBS and made the systems more flexible and scalable. For example, customer relationship management (CRM) software and data mining techniques can be integrated with PBS, allowing for more in-depth analysis of customer behavior (Chaffey & Ellis-Chadwick, 2019). In this way, companies can gain competitive advantage by predicting current customer needs and future demands. In order for marketing information systems to be used successfully, it is not enough to have a sufficient technical infrastructure. It is also necessary for a culture of decision-making based on information to be developed within the company, managers to have high analysis and interpretation skills, and the system to be supported by senior management. Otherwise, the data provided by PBS cannot be effectively evaluated and the potential benefits of the system cannot be fully realized (Solomon, Marshall, & Stuart, 2020).

The effects of marketing information systems (MIS) on business management are among the important topics that have been researched in the literature for a long time. These systems provide strategic advantages to businesses by contributing to more rational marketing decisions. The theoretical infrastructure of marketing information systems is based on general information systems literature, but it is customized according to the data requirements specific to marketing functions (Kotler and Keller, 2016). In the literature, MIS is defined as decision support tools in dynamic market conditions and it is emphasized that it plays an important role in strategic planning processes.

2.2. Making Marketing Mix Decisions in Businesses

The marketing mix consists of the product, price, place and promotion (4P) elements that form the basic components of a company's marketing strategy. When making decisions regarding the marketing mix, businesses aim to gain competitive advantage in the target market by taking into account both internal environmental factors and external environmental dynamics (Kotler and Keller, 2016). Marketing mix decisions have strategic importance because they directly affect the positioning of the business in the market, and making the right decisions plays a critical role in the success of the business. Marketing mix decisions begin with the business's correct analysis of its target market and customer needs. Product decisions take shape in a wide range from product design to quality, variety and branding strategy. Businesses must determine product features that will meet customer expectations and differentiate from competitors (Gürbüz and Aytaç, 2017). Product decisions increase the competitiveness of the business and aim to create long-term customer loyalty. Pricing decisions are one of the most sensitive and complex dimensions of the marketing mix. Price is closely related to the perceived value of the product and the customer's willingness to pay. When determining pricing decisions, businesses must take into account costs, demand elasticity, competitor prices and market conditions (Çetinkaya, 2018). Pricing strategies should be flexible according to factors such as product life cycle and brand positioning. Incorrect pricing can cause both sales losses and damage to the brand image. The location (distribution) decision of the marketing mix aims to ensure that the product reaches the target market at the right time and in the right way. In this context, issues such as the selection of distribution channels, logistics, stock management and determination of sales points are important (Başar, 2015).

Effective distribution channels increase customer satisfaction while allowing the company to optimize its costs. Today, with the spread of e-commerce, the importance of digital distribution channels is also increasing. Promotion decisions are another basic element of the marketing mix. Promotion activities consist of tools such as advertising, sales promotions, public relations and personal sales. Businesses shape their promotion strategies with messages and channels suitable for the target audience. The effectiveness of these decisions is important in terms of creating brand awareness and influencing customer purchasing behavior (Özdemir, 2016). The development of digital marketing and social media tools has led to promotion decisions taking on a dynamic and interactive structure. In the process of making decisions regarding the marketing mix, businesses need to conduct comprehensive market research. Market research reveals the needs and expectations of the target audience, the activities of competitors and market trends (Yıldırım and Kaya, 2017). Decisions taken in the light of this information are more accurate and customer-focused. The flexibility of marketing mix decisions enables rapid adaptation to market conditions and customer preferences. In the decision-making process, businesses support data collection, analysis and interpretation activities by using marketing information systems (PBIS) (Kara, 2014). Especially in sectors where competition is intense, making decisions based on accurate and up-to-date information is indispensable for the survival and growth of the business. Making decisions regarding the marketing mix is a process that directly affects both the strategic and operational success of businesses. Managing product, price, place and promotion decisions in a harmonious and balanced manner provides a strong competitive advantage in the target market. Businesses should prioritize customer focus, flexibility and data-supported analysis when making these decisions. By effectively managing the marketing mix, the sustainable growth of the business is supported.

3. METHOD

3.1. Research Model

This study is a quantitative study, and the data were collected numerically and analyzed using statistical methods. Quantitative studies are types of research that aim to systematically collect data on observable and measurable phenomena and to reach generalizations based on these data. In such studies, the relationships between measurable variables are tested and evaluations are made in line with hypotheses (Büyüköztürk et al., 2016). The relational screening model was used within the scope of the research. This model is a screening type that aims to determine the level of relationship between two or more variables. The relational screening model describes the current situation and examines the direction and level relationship between the variables, revealing whether there is a significant connection between them. In this respect, this model, also called correlational research, is widely preferred especially in social sciences (Karasar, 2012).

3.2. Universe and Sample

The universe of this research consists of all businesses operating in the Turkish Republic of Northern Cyprus (TRNC). According to the 2020 Business Statistics report published by the TRNC Statistical Institute, there are a total of 16,787 enterprises (businesses) in the country. The total number of local units (branches, stores, offices, etc.) owned by these businesses is recorded as 18,792. The vast majority of enterprises operate with only one local unit; accordingly, 15,620 enterprises have only one local unit. In addition, 858 enterprises operate with two units, and 165 enterprises operate with three local units. The sample of the research consists of 323 business representatives (managers, partners or owners) selected from this universe and limited according to certain criteria. Purposive sampling was used as the sampling method. In this method, businesses that can provide information about marketing information systems and decision-making processes, are active and represent sectoral diversity were included in the scope of the research.

The following criteria were taken into account in selecting the businesses included in the sample group:

- They must be registered and still active within the borders of the TRNC,
- Having a staff or unit to carry out marketing activities,
- They have been operating for at least one year,
- Filling out the survey form completely and voluntarily.

In this context, data obtained from 323 business representatives who agreed to participate in the research and met the necessary criteria were used in statistical analyses. This sample size has a significant representative power compared to the total number of businesses in the TRNC and increases the generalizability of the research.

3.3. Data Collection Tools

In the study, the measurement tool for the level of use of marketing information systems was taken from the scale in the doctoral thesis developed by İnce (2023) and structured by the researcher using the scale development method. In this context, a pilot application was conducted in 102 enterprises in May 2021 and the comprehensibility, applicability and validity of the survey form were tested. It was determined that there was no question that was not understood by the participants and that there was no obstacle to moving on to the implementation phase of the measurement tool. Exploratory factor analysis was performed to determine the validity of the scale; the Kaiser-Meyer-Olkin (KMO) value was found to be 0.898 and the Bartlett sphericity test was significant. These results show that the sample adequacy and the suitability of the data for factor analysis were high. As a result of the factor analysis, it was determined that the scale developed for the level of use of marketing information systems in enterprises consisted of a total of 15 questions and four sub-dimensions (Business Records, News Retrieval Systems, Marketing Research and Decision Support Systems). The first factor measured the level of use of marketing information systems by 58.8%, the second factor contributed by 14.3%, the third factor by 7.1% and the fourth factor by 4.2%. Thus, these four factors in total show that the scale has an explanatory power of 84.67%. When the factor loading distributions were examined, it was seen that the factor loadings of all items were above 0.50 and the loading differences of the same item on different factors were at least 0.10. These findings revealed that the developed scale was a valid and reliable measurement tool.

In addition, the scale questions regarding the information-based marketing decisions were also used in the study prepared by İnce (2023). In this context, the extent to which businesses make product, price, distribution and promotion decisions based on customer, competitor and market information was measured through questions adapted from the scale originally developed by Keh, Mai Nguyen and Ng (2007). Within the scope of product decisions, it was evaluated whether features such as quality, shape, packaging and product variety were determined based on information. In price decisions, the effect of customer and market information was measured in the pricing process of products and services. In the distribution decisions section, the level of information use in the company's strategies for distribution channels was questioned; in the promotion decisions section, it was examined whether promotion, advertising and promotional activities were shaped in line with market information. Thus, comprehensive and valid data were obtained within the scope of the research on both the level of use of marketing information systems in businesses and the effect of these systems on marketing decisions. Cronbach's Alpha

reliability coefficient was calculated in order to determine the internal consistency of the measurement tool used in the research. The findings show that all subscales exhibit reliability above acceptable levels. The Alpha value for the sub-dimensions of the marketing information systems scale was calculated as .844 for "Business Records"; .942 for "Information Systems"; .904 for "Marketing Research"; and .882 for "Decision Support Systems". These values show that the scale items provide high-level consistent measurements.

In the sub-dimensions regarding information-based marketing decisions, "Product" has .807; "Price" has .871; "Distribution" has .915 and "Promotion" has .785 Cronbach's Alpha values. The fact that all sub-scales are above .70 shows that the internal consistency of the scales is strong and provides reliable data. Especially the values of .90 and above show that the measurement tool has a very high level of reliability. These results show that each sub-dimension in the questionnaire form measures the relevant structure reliably.

3.4. Analysis of Data

The research data were analyzed with SPSS 26.00 Program. In this context, first of all, normality test was performed. In order to test the normality of the data related to the measurement tools used in the research, Kolmogorov-Smirnov (KS) test was applied and skewness and kurtosis values were calculated within the scope of descriptive statistics. According to the Kolmogorov-Smirnov test results, the significance level (p) was found as .000 for all subscales, which shows that the assumption of normality was rejected from a statistical point of view. However, when the skewness and kurtosis values were examined, it was seen that all subscales were within the range of ± 2 . This value range supports that the distribution is quite close to the normal distribution in practice and that parametric tests can be applied. Especially in the "Business Records" subscale, skewness was calculated as .020 and kurtosis as -.002, and similarly symmetrical and moderately flat/sharp distributions were obtained in the other subscales. In this respect, it was concluded that the data related to the marketing information systems (Business Records, Information Systems, Marketing Research, Decision Support Systems) and marketing decision-making (Product, Price, Distribution, Promotion) scales have sufficient normality in terms of analysis and parametric statistical techniques can be used.

4. FINDINGS

Table 1. Socio-Demographic Distribution of Participants

Variable	Category	Frequency (n)	Percentage (%)
Gender	Woman	136	42.1
	Male	187	57.9
Age	18–29	63	19.5
	30–40	91	28.2
	41–50	81	25.1
	51–60	47	14.6
	61–70	25	7.7
	71+	16	5.0
Educational Status	Primary/Secondary Education	17	5.3
	High school	64	19.8
	Associate Degree	78	24.1
	Licence	95	29.4
	Degree	48	14.9
	Doctorate	21	6.5
Position in the Business	Owner	124	38.4
	Partner	42	13.0
	Executive	122	37.8
	Other	35	10.8
		323	100

When the findings regarding the socio-demographic characteristics of the 323 business representatives who participated in the research are examined, it is seen that 57.9% of the participants are male and 42.1% are female. The densest group in terms of age distribution is the participants between the ages of 30–40 with 28.2%, followed

by the ages of 41–50 with 25.1% and the ages of 18–29 with 19.5%. 14.6% of the participants are between the ages of 51–60, 7.7% are between the ages of 61–70, and 5% are 71 and over. When the educational background is examined, the highest rate belongs to bachelor's degree graduates with 29.4%, followed by participants with an associate degree with 24.1%, high school with 19.8%, master's degree with 14.9%, doctorate with 6.5%, and primary/secondary education level with 5.3%. When the positions of the participants within the company were evaluated, it was determined that 38.4% of them were business owners, 37.8% were managers, 13% were partners and 10.8% were in other positions. These findings reveal that the sample exhibited a diverse and balanced distribution in terms of gender, age, education level and position in the company.

Table 2. Distribution of Business Characteristics

Variable	Category	Frequency (n)	Percentage (%)
Business Type	Person	145	44.9
	Limited	112	34.7
	A.Ş.	40	12.4
	Other (ordinary partnership, cooperative etc.)	26	8.0
Number of Employees	1–9	157	48.6
	10–49	116	35.9
	50–249	38	11.8
	250+	12	3.7
Activity Period	Less than 1 year	13	4.0
	1–5 years	84	26.0
	6–10 years	95	29.4
	11–20 years	76	23.5
	21 years and above	55	17.0
Marketing Personnel / Department	Yes	203	62.8
	No	120	37.2

When the types of enterprises participating in the research are examined, it is seen that 44.9% of the participants are sole proprietorships, 34.7% are limited companies, 12.4% are joint stock companies, and 8% are ordinary partnerships, cooperatives or other similar enterprise types. When the distribution is examined according to the number of employees, the majority of the enterprises have the characteristics of micro and small-scale enterprises; in fact, 45.8% have 1-9 employees, and 34.1% have 10-49 employees. While the rate of enterprises with no employees is 5.6%, enterprises with 50-249 employees are 11.1%, and large-scale enterprises with 250 or more employees are only 3.4%. These data show that the research sample is predominantly composed of small and medium-sized enterprises (SMEs).

When the distribution of the businesses in terms of their operating period is examined, it is determined that 29.4% of them have been operating for 6-10 years, 26% for 1-5 years, and 23.5% for 11-20 years. In addition, 17% have been operating for 21 years and above, while only 4% have been operating for less than 1 year. These results show that a significant portion of the businesses in the sample have passed the institutionalization stage and have gained certain experience in the market. It was observed that 62.8% of the participants have a marketing department or only marketing personnel in their businesses, while 37.2% do not have such a unit. This finding shows that a large portion of the businesses in the sample carry out their marketing activities within a certain organizational structure and are open to data-based marketing decisions.

Table 3. Sub-dimensions of Marketing Information Systems by Business Type (ANOVA Results)

Sub Dimension	Business Type	n	Avg. (X)	Ps.	f	p
Business Records	Person	145	3.46	0.51	23,850	.000 2>1
	Limited	112	3.83	0.48		
	A.Ş.	40	4.13	0.44		
	Other	26	3.80	0.51		
Intelligence Systems	Person	145	3.38	0.49	47,751	.000 3>4

Sub Dimension	Business Type	n	Avg. ($\bar{X}$)	Ps.	f	p
	Limited	112	3.89	0.50		
	A.Ş.	40	4.22	0.47		
	Other	26	4.00	0.48		
Marketing Research	Person	145	3.29	0.58	21,160	.000 3>2.1
	Limited	112	3.61	0.62		
	A.Ş.	40	3.98	0.60		
	Other	26	3.72	0.65		
Decision Support Systems	Person	145	3.52	0.53	29,216	.000 2>1
	Limited	112	3.75	0.49		
	A.Ş.	40	4.09	0.48		
	Other	26	4.00	0.49		

The results of one-way analysis of variance (ANOVA) conducted on four sub-dimensions measuring the level of use of marketing information systems according to business types revealed that there were statistically significant differences in all dimensions ($p < .001$). As a result of post-hoc (multiple comparison) analyses conducted to determine the direction of the difference, it was observed that certain business types had significantly higher scores in some sub-dimensions.

The result of $f(3, 319) = 23.850$, $p < .001$ obtained in the "Business Records" sub-dimension shows that there is a significant difference according to the type of business. In the comparisons made, limited companies stated that they use this system at a higher level than sole proprietorships (Limited > Private).

In the "Information Receiving Systems" dimension, the statistical significance at the level of $f(3, 319) = 47.751$, $p < .001$ shows that especially joint stock companies (Joint Stock Companies) use this system more effectively compared to other groups. As a result of post-hoc analyses, a significant difference was determined as Joint Stock Companies > Others group. In the "Marketing Research" sub-dimension, the result of $f(3, 319) = 21.160$, $p < .001$ shows significant differences. In this context, it was determined that joint stock companies have higher average scores than both limited companies and sole proprietorships (Joint Stock Companies > Limited, Private Company). In the "Decision Support Systems" dimension, the significant difference determined as $f(3, 319) = 29.216$, $p < .001$ again shows that joint stock companies use these systems more intensively compared to other business types. It was observed that especially joint stock companies received higher scores than limited and sole proprietorships (Joint Stock Companies > Limited, Private Company).

Table 4. Sub-dimensions of Marketing Information Systems According to Number of Employees (ANOVA Results)

Sub Dimension	Number of Employees	n	Avg. ($\bar{X}$)	Ps.	f	p
Business Records	1-9	157	3.48	0.47	19,968	.000 4> 1
	10-49	116	3.78	0.53		
	50-249	38	4.05	0.55		
	250+	12	4.19	0.54		
Intelligence Systems	1-9	157	3.54	0.48	30,050	.000 4> 1.2
	10-49	116	3.90	0.50		
	50-249	38	4.23	0.48		
	250+	12	4.32	0.45		
Marketing Research	1-9	157	3.38	0.51	23,874	.000 4> 1.2
	10-49	116	3.71	0.55		
	50-249	38	4.06	0.53		
	250+	12	4.20	0.48		
Decision Support Systems	1-9	157	3.51	0.49	18,362	.000
	10-49	116	3.77	0.50		

Sub Dimension	Number of Employees	n	Avg. ($\bar{X}$)	Ps.	f	p
	50–249	38	4.04	0.47		4 > 1
	250+	12	4.13	0.51		

As a result of the one-way variance analyses (ANOVA), significant differences were identified in the sub-dimensions of marketing information systems according to the number of employees in the enterprises ($p < .001$). As a result of the post-hoc (multiple comparison) analyses conducted in order to determine the direction of these significant differences, it was understood that enterprises with a high number of employees use marketing information systems more intensively. The result of $f(3, 319) = 19.968$, $p < .001$ obtained in the “Business Records” sub-dimension revealed that enterprises differ according to the number of employees. According to the post-hoc analysis results, enterprises with 250 or more employees use this system at a significantly higher level compared to those with 1–9 employees ($4 > 1$). Similarly, significance was obtained in the “Information Receiving Systems” sub-dimension at the level of $f(3, 319) = 30.050$, $p < .001$. Post-hoc comparisons showed that businesses with 250+ employees had higher scores than those with both 1–9 and 10–49 employees ($4 > 1.2$). A significant difference was also found in the “Marketing Research” dimension ($f(3, 319) = 23.874$, $p < .001$), and again the highest mean scores belonged to businesses with 250 or more employees. It was found that these businesses used marketing research more extensively compared to smaller businesses ($4 > 1.2$). Statistical significance was also found in the “Decision Support Systems” sub-dimension at the level of $f(3, 319) = 18.362$, $p < .001$. Post-hoc analysis results showed that businesses with 250+ employees used these systems more effectively than those with 1–9 employees ($4 > 1$).

Table 5. Sub-dimensions of Marketing Information Systems According to Activity Duration (ANOVA Results)

Sub Dimension	Activity Period	n	$\bar{X}$	Ss.	f	p
Business Records	Less than 1 year	13	3.55	0.57	6,174	.000
	1–5 years	84	3.59	0.52		5 > 1,2,3,4
	6–10 years	95	3.63	0.55		
	11–20 years	76	3.81	0.55		
	21 years and above	55	3.99	0.53		
Intelligence Systems	Less than 1 year	13	3.51	0.49	2,174	.073
	1–5 years	84	3.63	0.47		
	6–10 years	95	3.66	0.46		
	11–20 years	76	3.71	0.45		
	21 years and above	55	3.75	0.43		
Marketing Research	Less than 1 year	13	3.50	0.54	8,592	.000
	1–5 years	84	3.70	0.52		
	6–10 years	95	3.91	0.53		5 > 1,2,3,4
	11–20 years	76	4.00	0.48		
	21 years and above	55	4.20	0.50		
Decision Support Systems	Less than 1 year	13	3.43	0.48	1,964	.099
	1–5 years	84	3.53	0.49		
	6–10 years	95	3.64	0.50		
	11–20 years	76	3.70	0.52		
	21 years and above	55	3.81	0.47		

As a result of the one-way variance analyses, some significant differences were found in the marketing information systems sub-dimensions according to the duration of activity of the enterprises. The difference between the groups was found to be statistically significant especially in the “Business Records” and “Marketing Research” dimensions ($p < .001$). The $f(4, 318) = 6.174$, $p < .001$ result obtained in the “Business Records” sub-dimension shows that as the duration of activity of the enterprises increases, the level of use of the business records system also increases. As a result of the post-hoc analyses, it was seen that the enterprises that have been in operation for 21 years or more use this system at a significantly higher level compared to all other groups that have been in

operation for a shorter period ($5 > 1, 2, 3, 4$). Similarly, a significant difference was obtained in the “Marketing Research” sub-dimension at the level of $f(4, 318) = 8.592, p < .001$. According to the post-hoc analysis results, businesses with an operating period exceeding 21 years have significantly higher average scores in the use of marketing research than all other groups ($5 > 1, 2, 3, 4$).

Table 6. Sub-dimensions of Marketing Decision Making by Business Type (ANOVA Results)

Sub Dimension	Business Type	n	$\bar{X}$	Ps.	f	p
Product	Person	145	3.71	0.49	8,369	.000 3>1
	Limited	112	3.97	0.50		
	A.Ş.	40	4.01	0.42		
	Other	26	3.71	0.43		
Price	Person	145	3.68	0.47	9,799	.000 3>2.4
	Limited	112	3.93	0.52		
	A.Ş.	40	4.03	0.50		
	Other	26	3.63	0.47		
Distribution	Person	145	3.84	0.48	6,991	.000 3>2.4
	Limited	112	4.00	0.52		
	A.Ş.	40	4.02	0.52		
	Other	26	3.69	0.53		
Promotion	Person	145	3.82	0.48	8,280	.000 3>1
	Limited	112	4.03	0.51		
	A.Ş.	40	4.13	0.47		
	Other	26	3.79	0.48		

As a result of the post-hoc analyses, significant differences were found in all sub-dimensions related to marketing decisions according to business type. The result obtained in the “Product” sub-dimension as $f(3, 319) = 8.369, p < .001$ shows that there is a significant difference between the groups. According to the post-hoc analyses, the level of information-based product decisions in businesses with the status of joint-stock companies (JSC) is significantly higher compared to sole proprietorships ($3 > 1$). Significant differences emerged in the “Price” sub-dimension with $f(3, 319) = 9.799, p < .001$. Joint-stock companies exhibit a higher level of information-based approach in pricing decisions compared to limited companies and other business types ($3 > 2, 4$). Similarly, it was seen that joint-stock companies had higher average scores in the “Distribution” sub-dimension ($f = 6.991, p < .001$). Here too, JSC It was determined that the companies were significantly different from the limited and other types of companies ($3 > 2, 4$). A significant difference was also found in the “Promotion” sub-dimension ($f = 8.280, p < .001$) and it was observed that joint stock companies made more information-based promotional decisions than sole proprietorships ($3 > 1$).

Table 7. Correlation Analysis between Marketing Information Systems and Marketing Decisions (Pearson r)

PBS Size	Decision Dimension	r	p
Business Records	Product	-0.061	.273
	Price	0.351	.000
	Distribution	-0.045	.416
	Promotion	0.048	.392
Intelligence Systems	Product	0.013	.810
	Price	-0.006	.898
	Distribution	0.423	.000
	Promotion	0.023	.686
Marketing Research	Product	0.037	.499
	Price	-0.011	.844
	Distribution	-0.021	.707
	Promotion	0.458	.000

PBS Size	Decision Dimension	r	p
Decision Support Systems	Product	0.550	.000
	Price	-0.009	.872
	Distribution	0.024	.674
	To know	-0.015	.780

As a result of the Pearson correlation analysis, some significant relationships were found between the marketing information systems sub-dimensions and the marketing decision-making sub-dimensions. This analysis provides important findings in terms of evaluating the impact of information systems on decision-making processes. First of all, a moderately positive and significant relationship was found between the Business Records dimension and the Price decision ($r = 0.351$, $p < .001$). This finding shows that businesses that follow their business records regularly and systematically contribute to making more conscious pricing decisions. A significant relationship was also found between the News Receiving Systems dimension and the Distribution decision ($r = 0.423$, $p < .001$). This situation shows that environmental information gathering systems are effective in preferring information-based strategies, especially in distribution channels and logistics decisions. The Marketing Research dimension was found to be significantly related to Promotion decisions ($r = 0.458$, $p < .001$). This finding reveals that decision-making processes based on market research play a decisive role in shaping promotion and advertising strategies. A highly positive and significant relationship was found between Decision Support Systems and Product Decision ($r = 0.550$, $p < .001$). This result shows that when businesses use decision support technologies, they can make strategic decisions such as product development, diversification and positioning more effectively.

Table 8. The Impact of Marketing Information Systems on Marketing Decisions: Regression Analysis Results

Variable	B (β)	Std. Error	t	p	95% CI Lower	95% CI Upper
Constant (Const)	2,226	0.217	10,280	.000	1,800	2,652
Business Records	0.080	0.026	3,043	.003	0.028	0.131
Intelligence Systems	0.145	0.026	5,647	.000	0.094	0.195
Marketing Research	0.129	0.026	4,881	.000	0.077	0.182
Decision Support Systems	0.171	0.026	6,442	.000	0.119	0.224
$R^2 = 0.214$ Adjusted $R^2 = 0.205$ $F(4, 318) = 21.71$, $p < .001$						

The overall significance of the model is quite high; $F(4, 318) = 21.71$, $p < .001$ was calculated and the R^2 value was found as 0.214. This shows that the marketing information systems sub-dimensions explain approximately 21% of the variance in marketing decisions. In other words, marketing information systems have an important and explanatory role in decision-making processes. When the variables are examined individually, each one is statistically significant and has a positive effect. The Decision Support Systems variable has the highest effect coefficient ($\beta = 0.171$, $p < .001$), indicating that systematic analysis is a strong determinant in decision-making processes. The variables Information Receiving Systems ($\beta = 0.145$, $p < .001$) and Marketing Research ($\beta = 0.129$, $p < .001$) also emphasize the effect of information gathering and research-based approaches in marketing decisions. Although the effect of the Business Records dimension was relatively lower, it was found to be significant ($\beta = 0.080$, $p = .003$), demonstrating the contribution of record keeping and organizational memory in decision-making processes.

4. CONCLUSION

The research findings revealed that the level of use of marketing information systems differs significantly according to the structural characteristics of the enterprises. In particular, the variables of type of enterprise, number of employees and duration of activity significantly affect the usage levels of the four basic sub-dimensions of marketing information systems (business records, information systems, marketing research, decision support systems). While it is seen that joint stock companies use these systems more intensively and systematically than other types of enterprises, significant increases are observed in the usage levels of information systems as the number of employees increases and the duration of the enterprise extends. For example, it has been determined that enterprises with more than 250 employees and operating for more than 21 years use marketing information systems, especially the dimensions of business records and marketing research, at a higher level. This situation suggests that the need for information-based decision-making increases in parallel with the increase in the level of institutionalization.

In addition, strong and significant relationships were found between marketing information systems and marketing decision making. The impact of business records on pricing decisions, news systems on distribution decisions, marketing research on promotion decisions and decision support systems on product decisions is significant. It

was determined that decision support systems, in particular, play an effective role in product strategies. Regression analyses also show that marketing information systems provide a significant and statistically strong model in explaining marketing decisions. In this context, it was concluded that information systems are used as a functional tool in decision making processes and help decisions to be made more rationally and systematically.

In light of these findings, a number of strategic recommendations should be developed to ensure that marketing information systems are used more effectively, especially in small and medium-sized enterprises. First, training programs should be organized to raise awareness about the advantages of information systems, and technical support should be provided on how to install and operate these systems. In addition, increasing state-supported incentives, making investments to facilitate access to information technologies, and providing consultancy services in digitalization processes will contribute to the dissemination of systems. Finally, it should be emphasized that marketing information systems are not a resource specific to large enterprises only, but also a strategic tool that increases the competitiveness of enterprises of all sizes; public, private sector and academic collaborations should be encouraged in this direction.

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THE IMPACT OF ORGANIZATIONAL CHANGE ON ORGANIZATIONAL CREATIVITY

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ABSTRACT

This study aims to examine the relationship between organizational change and organizational creativity among employees working in the private sector in the Turkish Republic of Northern Cyprus (TRNC). The research was designed using a quantitative research method. The study population consisted of private sector employees across various industries operating in the TRNC. In line with the study's objectives, data were collected from a total of 325 participants using an online survey form. The Organizational Change Perception Scale and the Organizational Creativity Scale were employed as data collection tools. The data obtained were analyzed using the SPSS statistical software package. The findings of the study revealed important insights into the relationship between employees' perceptions of organizational change and their levels of creativity, as well as how these perceptions vary according to individual demographic factors. The results showed that female employees generally hold a more positive attitude toward change and demonstrate higher perceptions of change at cognitive, emotional, and behavioral levels compared to their male counterparts. Women were also found to score higher in organizational creativity.

Age was another significant factor: middle-aged employees reported higher engagement in organizational change processes, while younger employees demonstrated stronger perceptions of individual and social creativity. These findings suggest that age plays an influential role in both adaptability to change and creative potential within the workplace. Correlation analyses revealed that the cognitive dimension of organizational change perception significantly influences individual creativity, the affective dimension significantly impacts managerial creativity, and the behavioral dimension is strongly associated with social creativity. These results indicate that how employees perceive and respond to change at cognitive, emotional, and behavioral levels contributes directly to the development of creativity in different domains within organizations. Overall, this research highlights the critical role of effectively managing organizational change in fostering creativity at the individual, managerial, and social levels. The results emphasize the need for leaders and managers to develop change strategies that consider employees' perceptions and support their creative potential.

Keywords: Organizational Change, Organizational Creativity, Employee Perception, Change Management

1. INTRODUCTION

1.1. Problem

Organizational change encompasses both planned and unplanned transformation processes that affect an organization's structural characteristics, strategic orientations, operational procedures, technological infrastructure, or corporate culture. Change typically occurs as a result of organizations responding to external threats and opportunities, shaped by a complex interplay of internal and external factors (İraz & Şimşek, 2004; Jacobs et al., 2013). Internal factors that drive organizational change include shifts in leadership style, evolving employee expectations, performance-related challenges, and institutional restructuring initiatives. In contrast, external factors often involve technological advancements, economic fluctuations, regulatory adjustments, and changes in market dynamics (Helms-Mills et al., 2008; Antep & Türk, 2024).

Organizational change should be understood not only as an adaptation mechanism but also as a fertile ground for fostering innovation. Change processes can activate dynamics that encourage creative thinking and the implementation of innovative practices within organizations. At this point, the concept of organizational creativity becomes central. Organizational creativity refers to the process of generating, developing, and implementing novel and useful ideas within the organizational setting. This process extends beyond individual creative abilities and is deeply connected to factors such as flexible organizational structures, collaborative environments, a risk-taking culture, and supportive leadership (Puccio & Cabra, 2010; Di Prima et al., 2024).

One crucial factor influencing organizational creativity is the organization's openness and responsiveness to change. Becker et al. (2005) argue that the integration of existing organizational routines into transformation

processes directly impacts an organization's capacity for innovation. However, the psychological dimensions of change—such as uncertainty, resistance, and cynicism—can also hinder employees' willingness and ability to engage in creative processes, ultimately limiting the success of change initiatives (Sezgin et al., 2016; Özkul & Atasoy, 2024).

Rasulzada and Dackert (2009) highlight the positive relationship between employees' psychological well-being and organizational creativity, drawing attention to the influence of organizational factors on cultivating a creative climate. Similarly, Lang and Lee (2010) demonstrate that positive social interactions such as humor contribute to building work environments that nurture and sustain creativity. This suggests that organizational change processes should not be regarded solely as structural or strategic shifts, but also as opportunities to mobilize and enhance an organization's creative potential.

Recent studies have provided evidence of the link between organizational change and creativity across various sectors. For example, research has explored how change processes impact creativity in education (Ertürk & Uluğ, 2025), the health sector (Güven & Kılınç, 2022), and in business models driven by digitalization (Şişman & Yıldırım, 2023). These studies emphasize the importance of an organization's change capacity and the structural conditions that enable creative outputs to flourish.

Against this backdrop, the present study seeks to deepen our understanding of how organizational change processes influence employees' creativity levels in the private sector. Specifically, this research will examine how organizational change is perceived by employees, how leadership and communication strategies shape this process, and under what organizational conditions creative behaviors are most likely to emerge. Promoting creative thinking within organizations and fostering employee engagement and participation—rather than resistance—are vital for ensuring sustainable innovation and maintaining a competitive edge in an increasingly dynamic business environment.

1.2. Purpose of the Research

This research aims to examine the relationship between organizational change and organizational creativity. In the research, the effects of different dimensions of organizational change (strategic, structural, cultural, etc.) on employees' creativity perception and performance will be evaluated. Using the organizational change scale and the organizational creativity scale, the contributions of change processes to employees' creative thinking and innovation production abilities will be analyzed within a scientific framework.

1.3. Hypotheses

- H1:** Organizational change sub-dimensions and general mean scores differ significantly according to gender.
- H2:** Organizational change sub-dimensions and general mean scores differ significantly across age groups.
- H3:** Organizational change sub-dimensions and general mean scores differ significantly according to educational status.
- H4:** Organizational creativity sub-dimensions and general mean scores differ significantly according to gender.
- H5:** Organizational creativity sub-dimensions and general mean scores differ significantly across age groups.
- H6:** There are significant relationships between organizational change and organizational creativity sub-dimensions.
- H7:** Organizational change significantly predicts organizational creativity .

1.4. Importance of the Research

This research aims to comprehensively reveal the dynamics of change that encourage or hinder creativity by examining the impact of organizational change processes on employees' perceptions of creativity. In this respect, the study contributes to both the production of theoretical knowledge and produces guiding results for practitioners. Considering that organizational change often leads to psychological reactions such as uncertainty, resistance and stress, it is of great importance to understand the extent to which this process supports creative thinking. It is thought that the research will concretize the individual and institutional factors that need to be taken into consideration in change management by analyzing the perceptions of organizational change and creativity of employees in different demographic groups.

2. THEORETICAL FRAMEWORK

2.1. Organizational Change

Organizations are in a constant transformation to adapt to changing environmental conditions and maintain their competitive advantage. This transformation is explained by the concept of "organizational change". Organizational change refers to planned or unplanned changes in an organization's goals, strategies, structure, processes or technology. This process allows the organization to increase its flexibility and ensure its sustainability by interacting with its internal and external environment (Burnes, 2017). Organizational change can occur in different types. Structural change includes differences in the organizational chart, task distribution or management layers.

Technological change refers to innovations in production techniques, software or digital systems. Cultural change includes transformations in the norms, values and attitudes within the organization. Strategic change is the revisions made in the general orientation, goals or vision of the organization. Each of these types of changes can have different levels of impact within the organization (Cameron and Green, 2019).

Planned organizational change is a type of change that is carried out systematically and consciously in line with specific goals. In this process, managers define the need for change, develop strategies, and plan the implementation steps. Lewin's change model explains this process in three stages as "unfreezing, changing, and refreezing." This approach aims for employees to abandon their current habits, adopt new practices, and integrate the practices into the corporate culture (Lewin, 1951; Cummings and Worley, 2015). Unplanned organizational change usually occurs in times of crisis or as a result of environmental pressures. Such changes require rapid decision-making and flexible organizational structures. Unexpected events such as pandemics can be given as examples of unplanned change. In these cases, the agility of organizations, their adaptation to technology, and leadership approaches become the determining factors (Kotter, 2012).

In order to successfully manage organizational change, it is important to lead the change process. It facilitates the acceptance of change when leaders clearly define the change vision, involve employees in the process and keep communication channels open. It is necessary to understand and manage the resistance that may arise in employees against change. Resistance usually arises from uncertainty and is related to employees' fear of losing their current comfort zone (Armenakis and Bedeian, 1999). Communication strategies play a critical role in the change process. Informative, participatory and transparent communication increases employees' trust in the process. Lack of communication can lead to speculation, gossip and negative attitudes. Therefore, change communication should include information, persuasion and motivation (Self and Schraeder, 2009).

Another important aspect of organizational change is that the change process is compatible with cultural foundations. Institutional culture shapes the behavior and decision-making styles of employees. When change conflicts with these cultural elements, it may encounter resistance. Change management should start with cultural analysis and plan how to reconcile new practices with existing values (Schein, 2010). Organizational change also triggers organizational learning. In change processes, employees acquire new skills, develop different perspectives, and the institutional knowledge pool expands. It increases innovation capacity. Training programs, mentoring systems, and digital tools can be used to support the organizational learning process (Garvin, 2000).

Organizational creativity refers to the capacity of individuals and teams to produce new, original and useful ideas. This concept is closely related to the general vision, culture and structure of the organization at the individual level. Creativity is of critical importance for organizations to develop differentiation strategies and offer innovative solutions in constantly evolving markets (Amabile, 1996). Change processes can affect organizational creativity both positively and negatively. In change environments where innovative practices are encouraged and participatory decision-making processes are adopted, employees may feel more secure and tend to develop creative ideas. In cases where change is poorly managed and uncertainty prevails, employees may avoid taking risks and suppress creative thoughts (Anderson, Potočník, & Zhou, 2014). In order for organizational change to support creativity, the culture of change must be institutionalized. It is important for managers to reward creative behaviors, tolerate trial-and-error processes and create an environment of psychological trust that will eliminate the fear of making mistakes. Especially in digital transformation periods, employees' creative adaptations to new technologies and processes are decisive for the success of change (Edmondson, 1999). Another important element is organizational learning. Learning organization structures encourage employees' access to information, knowledge sharing, and skill development. They prepare the ground for the development of creative thinking. The existence of cross-functional teams increases collective creativity by bringing together different perspectives. They ensure that change projects are carried out with an innovation process that spreads to the managerial base (Nonaka and Takeuchi, 1995).

2.2. Organizational Creativity

Organizational creativity refers to the capacity of individuals, teams, and institutions to produce innovative ideas and transform ideas into useful products, services, or processes. This concept is not limited to individual creativity; it is affected by many factors such as cooperation within the organization, leadership style, organizational culture, communication structures, and interaction with the external environment. In today's business world, it is of great importance for organizations to develop their creative potential in order to keep up with rapidly changing conditions and achieve sustainable competitive advantage (Amabile, 1996). The basis of organizational creativity is individual creativity; individuals' creative ideas can gain value within the organization by providing a suitable environment. This suitable environment includes elements such as psychological safety, freedom of expression, tolerance for error, resource support, and flexible organizational structures. In such an environment, employees can share their ideas without hesitation, participate in innovative projects, and contribute to existing systems (Shalley and Gilson, 2004).

In organizations, the process of evaluating and implementing these ideas is as important as the emergence of creative ideas. At this stage, the role of leadership and managerial support is great. Leaders should support

employees' innovative ideas by creating a culture that encourages creative potential and facilitate the implementation of ideas. At this point, the transformational leadership approach stands out as one of the most effective leadership styles that supports organizational creativity (Jung, Chow, & Wu, 2003).

Another important aspect of organizational creativity is teamwork and interdisciplinary interaction. Environments where different knowledge bases and perspectives come together allow creative ideas to emerge more easily. Organizations should create open communication channels based on collaboration and encourage knowledge sharing between different departments. Such structures contribute to the development of both creative thinking and organizational learning (Paulus & Nijstad, 2003). In order for creativity to be successful at the organizational level, it must be supported by the innovation process. While creativity refers to the production of new and original ideas, innovation enables these ideas to be implemented and create value. Therefore, organizations need to align their innovation strategies with creative processes in order for creative ideas to turn into sustainable competitive advantage. This alignment also increases the agility and adaptability of the organization (Anderson, Potočník, & Zhou, 2014).

Organizational change refers to the transformations that organizations carry out in their structures, processes, and strategies in order to adapt to environmental conditions, increase their competitiveness, and maintain their sustainability. Although these change processes generally contain elements of uncertainty, resistance, and risk, they provide a suitable basis for the development of organizational creativity. Because change encourages questioning of current functioning, the formation of new ways of thinking, and the search for alternative solutions (Burke, 2017).

For creativity to develop, organizations need to adopt a culture that supports change and is open to innovation rather than having a static structure. The leadership style exhibited by managers in change processes, the participation of employees in the process, and the clarity of decisions made are factors that directly affect creativity. For example, managers who exhibit transformational leadership can support organizational creativity with practices such as vision setting, involving employees in the process, and inspiring communication (Bass & Riggio, 2006).

3. RESEARCH METHODS AND FINDINGS

3.1. Research Model

This study was conducted using a quantitative research method. Numerical data were collected during the research process, these data were evaluated using statistical analysis techniques, and the findings were reported using graphs and tables. Since the study aimed to examine the relationships between variables in an objective and measurable manner, it was structured in line with the basic principles of the quantitative research approach. Quantitative The research approach is a systematic and structured data collection and analysis method that has been used in social sciences and other disciplines for many years. The main purpose of this method is to objectively measure a specific event, situation or phenomenon and try to understand it through numerical data. In the study conducted by Garip (2023), it was emphasized that quantitative research offers a reliable approach in terms of reaching measurable and repeatable results. In the study, it was stated that this method is preferred especially in social sciences in terms of reducing complex social events to numerical data and drawing generalizable conclusions from these data. In another study conducted by Yılmaz (2024), the quantitative research process was discussed in detail and the basic data collection techniques used in this process were examined. In the study, it was stated that methods such as survey, scale development, test applications, experimental designs and structured observation provide the researcher with objective and comparable data. The obtained data were evaluated using statistical analysis techniques and the results were reported through tables, graphs and parametric tests. In addition, it was stated that the findings obtained as a result of the study can be generalized to a certain universe and in this respect, provide a concrete basis for decision-making processes. Both studies show that the quantitative research approach allows the researcher to test hypotheses in accordance with the principle of objectivity, to reveal the relationships between variables numerically, and to interpret the results obtained on a scientific basis.

3.2. Universe and Sample

The universe of this research consists of private sector employees operating in the Turkish Republic of Northern Cyprus (TRNC). In line with the purpose of the research, data was collected from private sector employees to examine organizational change and organizational creativity. The sample of the research was determined by the purposive sampling method. This method was used to include individuals with certain criteria in the research (Başaran, 2024). In this direction, the employees included in the sample were provided with the following criteria:

- They are actively working in the private sector in the TRNC,
- Having witnessed change processes within the organization or taken an active role in these processes,
- They vary in terms of working hours and professional seniority.

Within the framework of these determined criteria, data were collected from a total of 325 participants. Thanks to this sampling method, the participants most suitable for the purpose of the research were studied; thus, it was possible to interpret the findings in a context-specific and more in-depth manner.

3.3. Data Collection Tools

In this study, the “Organizational Change Perception Scale”, which was developed by Dunham et al. (1989) and adapted to Turkish by Gürbüz (2020) and its validity and reliability study was carried out, was used as a data collection tool in order to assess employees' attitudes towards organizational change. The scale consists of a total of 18 items in three sub-dimensions: cognitive, emotional, and behavioral. Since five items in the scale contained reverse expressions, reverse coding was applied to these items. According to the results of the factor analysis conducted in the study, it was determined that the sample was large enough for the analysis (KMO=0.881; Bartlett's Test $p=0.000$) and the scale explained 59.777% of the total variance. According to the reliability analysis, the general Cronbach's Alpha coefficient of the scale was determined as 0.905; These values for the sub-dimensions were calculated as 0.891 for the cognitive dimension, 0.783 for the emotional dimension, and 0.802 for the behavioral dimension.

In order to measure the perception of organizational creativity, the “Organizational Creativity Scale” developed by Balay (2010) was used. This scale consists of a total of 38 items in three sub-dimensions as individual, managerial and social. Since some items in the scale contained reverse statements, reverse coding was applied to these statements. According to the factor analysis results, the sample was found suitable for analysis (KMO=0.924; Bartlett's Test $p=0.000$) and the scale explained 48.873% of the total variance. The general Cronbach's Alpha coefficient of the scale was found to be 0.964; it was calculated as 0.937 for individual creativity dimension, 0.931 for managerial creativity dimension and 0.927 for social creativity dimension. Both scales were applied in a 5-point Likert-type structure rated between 1 (Strongly disagree) and 5 (Strongly agree). In the reliability analysis conducted for the Organizational Change Scale and Organizational Creativity Scale used in the study, it was seen that the internal consistency levels of both scales were quite high. Cronbach's Alpha value of the Organizational Change Scale was calculated as 0.91, and that of the Organizational Creativity Scale as 0.94. These values show that the scales are highly reliable measurement tools (Tavşancıl, 2010). While values of the alpha coefficient of 0.70 and above are generally acceptable, and values above 0.80 are considered as good reliability (Kline, 2013), these results reveal that the internal consistency of the measurements is quite strong. Especially in social sciences, scales with high reliability values support the validity of the data and increase the reliability of the findings in evaluating complex psychological and organizational structures. In this context, it can be said that the scales used in the study give consistent and stable results in measuring the relevant variables.

3.4. Analysis of Data

The research data were analyzed with the SPSS program. Normality analyzes for the Organizational Change and Organizational Creativity scales used in the research were evaluated with multiple statistical tests. In the Kolmogorov-Smirnov test, the p-value for both scales was above .05 (Organizational Change: $p = .307$; Organizational Creativity: $p = .845$), which shows that the data meet the normal distribution assumption. Although a significant difference was observed with $p = .023$ for the Organizational Change Scale in the Shapiro-Wilk test, the $p = .145$ value for the Organizational Creativity Scale supports normality. Within the framework of these findings, when the skewness and kurtosis values are also taken into account (they remain within ± 2 for both scales; Tabachnick & Fidell, 2013), it can be said that the distribution is sufficiently suitable for the normal assumption. Especially since the sample size is 200, the evaluation was made with Kolmogorov-Smirnov and moment values, considering the extreme sensitivity of the Shapiro-Wilk test in the use of parametric tests. In this direction, the usability of parametric tests in the analyses was accepted.

4. FINDINGS

Table 1. Demographic Characteristics of Participants (n = 325)

Variable		n	%
Gender	Woman	184	56.6
	Male	141	43.4
Age	18-24	36	11.1
	25-34	91	28.0
	35-44	73	22.5
	45-54	55	16.9
	55-64	44	13.5
	65 and over	26	8.0
Educational Status	Primary education	13	4.0
	Secondary Education	19	5.8

Variable		n	%
	High school	68	20.9
	Associate Degree	63	19.4
	Licence	108	33.2
	Masters / PhD	54	16.6
Marital status	Single	139	42.8
	Married	186	57.2
Professional Seniority	0-1 year	29	8.9
	2-5 years	103	31.7
	6-10 years	87	26.8
	11-15 years	59	18.2
	16 years and above	47	14.5
Working Time in Current Workplace	0-1 year	42	12.9
	2-5 years	116	35.7
	6-10 years	81	24.9
	11-15 years	50	15.4
	16 years and above	36	11.1
Total		325	100.0

A total of 325 private sector employees participated in the study. 56.6% of the participants were female and 43.4% were male. When the age distribution was examined, the highest rate was in the 25-34 age range with 28.0%, followed by 35-44 age with 22.5%, 45-54 age with 16.9%, 55-64 age with 13.5%, 18-24 age with 11.1% and 65 and over age with 8.0%. This distribution shows that the majority of the participants were concentrated in the young and middle age groups. When the educational status was examined, 33.2% of the participants had a bachelor's degree, 20.9% had a high school degree, 19.4% had an associate degree, 16.6% had a master's degree/doctorate, 5.8% had secondary education and 4.0% had primary school. These findings reveal that the educational level of the research group was generally high. When evaluated in terms of marital status, 57.2% of the participants are married and 42.8% are single. When the professional seniority of the participants is examined, 31.7% have 2-5 years, 26.8% 6-10 years, 18.2% 11-15 years, 14.5% 16 years and above, and 8.9% 0-1 year of professional experience. In terms of length of service in their current workplace, 35.7% of the participants have 2-5 years, 24.9% 6-10 years, 15.4% 11-15 years, 12.9% 0-1 year, and 11.1% 16 years and above. These data show that the majority of the individuals participating in the research have a certain institutional background in terms of both professional seniority and workplace experience.

Table 2. Organizational Change Sub-dimensions and General Score Averages by Gender

Sub Dimension	Gender	n	Avg.	Ps .	f	p
Cognitive	Male	141	20.67	4.69	42.53	0.000
	Woman	184	24.24	4.26		
Emotional	Male	141	21.86	3.85	7.19	0.008
	Woman	184	22.91	3.59		
Behavioral	Male	141	23.35	4.40	18.69	0.000
	Woman	184	24.95	4.15		
Organizational Change (General)	Male	141	66.92	9.00	35.06	0.000
	Woman	184	72.49	7.57		

$p < .05$

In order to determine whether the participants' perceptions of organizational change show a significant difference according to gender, remarkable results were obtained in the analyses conducted on the cognitive, emotional and behavioral sub-dimensions and the general scale scores. In terms of the cognitive sub-dimension, the mean score of the female participants (Mean = 24.24, SD = 4.26) was found to be significantly higher than the mean score of the male participants (Mean = 20.67, SD = 4.69) ($f = 42.53$, $p < .005$). Similarly, in the emotional sub-dimension, it was observed that females (Mean = 22.91, SD = 3.59) had higher scores than males (Mean = 21.86, SD = 3.85) and this difference was statistically significant ($f = 7.19$, $p < .05$). In the behavioral sub-dimension, it was

determined that women ($M = 24.95$, $SD = 4.15$) had higher means than men ($M = 23.35$, $SD = 4.40$) and this difference was significant ($f = 18.69$, $p < .005$). When the general organizational change score was examined, it was found that women ($M = 72.49$, $SD = 7.57$) had significantly higher scores than men ($M = 66.92$, $SD = 9.00$) ($f = 35.06$, $p < .005$). These results reveal that female employees have a more open, positive and participatory attitude towards organizational change processes compared to male employees. The findings show that the perception of organizational change differs by gender and that this difference is especially more pronounced in the cognitive and behavioral dimensions.

Table 3. Organizational Change Sub-dimensions and General Mean Scores by Age

Sub Dimension	Age group	n	Avg.	Ps .	f	p
Cognitive	18-24	36	22.10	4.20	3.92	0.002
	25-34	91	23.50	4.50		
	35-44	73	24.30	4.00		
	45-54	55	23.80	4.30		
	55-64	44	22.40	4.70		
	65 and over	26	21.60	5.00		
Emotional	18-24	36	21.30	3.70	2.87	0.015
	25-34	91	22.60	3.60		
	35-44	73	22.80	3.30		
	45-54	55	22.50	3.50		
	55-64	44	21.90	3.80		
	65 and over	26	21.10	4.00		
Behavioral	18-24	36	23.00	4.10	4.16	0.001
	25-34	91	24.00	4.20		
	35-44	73	25.20	3.90		
	45-54	55	24.70	4.00		
	55-64	44	23.40	4.30		
	65 and over	26	22.80	4.50		
General	18-24	36	66.40	7.80	5.02	0.000
	25-34	91	70.10	8.10		
	35-44	73	72.30	7.60		
	45-54	55	71.00	7.90		
	55-64	44	67.70	8.50		
	65 ve üzeri	26	65.50	9.00		

$p < .05$

whether the participants' perceptions of organizational change differed according to age , cognitive, emotional and behavioral sub-dimensions and general scale scores were examined. In the cognitive sub-dimension, a statistically significant difference was found between the age groups ($f = 3.92$, $p < .05$). As a result of the post-hoc analyses, it was determined that there was a significant difference especially between the 35-44 age group and the 65 and above age group; it was observed that the younger and middle age groups had higher cognitive awareness regarding the organizational change process. In the emotional sub-dimension, a significant difference was also found between the age groups ($f = 2.87$, $p < .05$). According to the post-hoc findings, it was understood that the 25-44 age group was more emotionally open to change and the level of emotional acceptance decreased with age. The difference obtained in the behavioral sub-dimension was also found to be significant ($f = 4.16$, $p < .05$) and post-hoc analyses showed that the 35-44 age group exhibited organizational change behaviors more intensely than both younger and older age groups. This finding shows that employees in the middle age group can assume more active roles in the change process. A significant difference was also found between the age groups in terms of general organizational change perception ($f = 5.02$, $p < .005$). Post-hoc analyses showed that the 35-44 age group evaluated change more positively, especially compared to participants aged 65 and over. These results show that age affects perceptions of organizational change at cognitive, emotional and behavioral levels and that middle age groups are more compatible with change.

Table 4. Organizational Change Sub-dimensions and General Score Averages According to Educational Status

Sub Dimension	Educational Status	n	Avg.	Ps .	f	p
Cognitive	Primary education	13	20.10	4.80	4.41	0.001
	Secondary Education	19	21.30	4.60		
	High school	68	22.70	4.20		
	Associate Degree	63	23.40	4.10		
	Licence	108	24.50	3.90		
	Masters / PhD	54	25.20	3.70		
Emotional	Primary education	13	20.90	4.00	3.56	0.004
	Secondary Education	19	21.40	3.90		
	High school	68	21.80	3.60		
	Associate Degree	63	22.50	3.40		
	Licence	108	23.10	3.30		
	Masters / PhD	54	23.60	3.10		
Behavioral	Primary education	13	22.00	4.50	5.02	0.000
	Secondary Education	19	23.00	4.30		
	High school	68	23.70	4.10		
	Associate Degree	63	24.40	3.90		
	Licence	108	25.10	3.70		
	Masters / PhD	54	25.80	3.50		
General	Primary education	13	63.00	8.50	6.27	0.000
	Secondary Education	19	65.70	8.20		
	High school	68	68.20	7.90		
	Associate Degree	63	70.30	7.60		
	Licence	108	73.10	7.30		
	Masters / PhD	54	74.60	7.10		

$p < .05$

In the one-way analysis of variance (ANOVA) conducted to determine whether the participants' perceptions of organizational change differed significantly according to their level of education, significant differences were found in terms of cognitive, emotional and behavioral sub-dimensions and the overall scale. According to the results obtained in the cognitive sub-dimension ($f = 4.41$, $p < .05$), it was observed that cognitive awareness increased as the level of education increased; however, in the post-hoc analyses, it was determined that undergraduate graduates had a higher mean compared to graduates with a master's degree/doctorate degree. This situation shows that individuals with a bachelor's degree make more effective evaluations regarding organizational change from a cognitive perspective. The difference between the groups was also found to be statistically significant in the emotional sub-dimension ($f = 3.56$, $p < .05$) and in the post-hoc analyses, it was determined that graduates with a master's degree/doctorate degree had significantly higher scores than graduates. This finding reveals that individuals with a higher academic level have stronger emotional acceptance of organizational change. Significant differences were determined in the behavioral sub-dimension ($f = 5.02$, $p < .005$), and it was observed that master's/doctorate graduates had higher scores than undergraduate graduates. This situation shows that as the level of education increases, the tendency towards action towards change behavior increases. Similarly, a significant difference was determined in terms of general organizational change scores ($f = 6.27$, $p < .005$), and it was determined that master's/doctorate graduates had higher perceptions than undergraduate graduates.

Table 5. Organizational Creativity Sub-dimensions and General Score Averages by Gender

Sub Dimension	Gender	n	Avg.	Ps .	f	p
Individual	Woman	184	88.20	10.20	42.70	0.000
	Male	141	84.10	10.90		
Administrative	Woman	184	92.50	11.50	4.58	0.033
	Male	141	88.40	12.20		
Toplumsal	Kadın	184	85.60	9.80	4.40	0.037

Sub Dimension	Gender	n	Avg.	Ps .	f	p
Genel	Erkek	141	82.20	10.40	6.94	0.009
	Kadın	184	266.30	28.10		
	Erkek	141	254.70	30.30		

$p < .05$

According to the results of the independent sample t-test conducted to determine whether the participants' perceptions of organizational creativity differed according to gender, statistically significant differences were found in the individual, managerial and social sub-dimensions and at the overall scale level. In the individual creativity sub-dimension, the mean score of female participants (Avg. = 88.20) was found to be significantly higher than that of male participants (Avg. = 84.10) ($f = 42.70$, $p < .001$). This finding shows that women are more open to innovative thinking and creative behaviors at the individual level. Similarly, in the managerial creativity dimension, women (Avg. = 92.50) had higher scores than men (Avg. = 88.40) and this difference was significant ($f = 4.58$, $p < .05$). This suggests that female employees have a more positive approach to the encouragement of creative ideas and the leadership-supported creativity environment in the organization. A significant difference was also observed in the social creativity sub-dimension ($f = 4.40$, $p < .05$) and it was determined that women (Avg. = 85.60) had a higher mean than men (Avg. = 82.20). When the general organizational creativity scores were evaluated, the mean score of women (Avg. = 266.30) was significantly higher than the score of men (Avg. = 254.70) ($f = 6.94$, $p < .05$). These results show that the organizational creativity levels of women employees are generally perceived as higher and that gender is a determining variable in this perception.

Table 6. Organizational Creativity Sub-dimensions and General Mean Scores by Age

Sub Dimension	Age group	n	Avg.	Ps .	f	p
Individual	18-24	36	86.10	10.40	2.93	0.014
	25-34	91	88.50	10.10		
	35-44	73	89.70	9.90		
	45-54	55	87.20	10.20		
	55-64	44	85.50	10.50		
	65 and over	26	83.90	10.80		
Administrative	18-24	36	89.30	11.20	3.21	0.008
	25-34	91	91.40	11.00		
	35-44	73	92.60	10.80		
	45-54	55	90.10	11.30		
	55-64	44	88.80	11.50		
	65 and over	26	86.50	11.90		
Social	18-24	36	84.00	9.70	2.68	0.021
	25-34	91	85.70	9.50		
	35-44	73	86.90	9.40		
	45-54	55	84.50	9.80		
	55-64	44	82.70	10.00		
	65 and over	26	80.80	10.30		
General	18-24	36	259.40	28.00	3.88	0.002
	25-34	91	265.60	27.60		
	35-44	73	269.20	27.20		
	45-54	55	261.80	28.30		
	55-64	44	257.00	29.00		
	65 ve üzeri	26	251.20	30.10		

$p < .05$

According to the one-way variance analysis conducted to determine whether the participants' organizational creativity perceptions differ according to age groups, statistically significant differences were found in terms of individual, managerial, social sub-dimensions and the overall scale. The findings obtained in the individual creativity dimension show that there is a significant difference between age groups ($f = 2.93$, $p < .05$). According to the post-hoc analysis results, it was determined that the 25-34 age group had a higher individual creativity

perception compared to the 35-44 age group. This suggests that young adults are more open to developing creative potential at an individual level. A significant difference was also found in the managerial creativity dimension according to age ($f = 3.21$, $p < .05$), and according to post-hoc analysis, the 35-44 age group had a higher managerial creativity perception compared to the 18-24 age group. This finding shows that middle-aged employees perceive managerial creativity more strongly. A significant difference was observed in the social creativity dimension ($f = 2.68$, $p < .05$), especially the 18-24 age group had higher perceptions than the participants aged 65 and over. This situation shows that young employees are more prone to social creativity elements such as communication within the group, cooperation and openness to different perspectives. Significant differences were also found in the general organizational creativity scores ($f = 3.88$, $p < .05$) and the post-hoc analysis results showed that the 18-24 age group had significantly higher scores than the 65 and over group.

Table 7. Correlation Between Organizational Change and Creativity Sub-Dimensions

Organizational Change \ Organizational Creativity	Individual (r/p)	Administrative (r/p)	Social (r/p)
Cognitive	0.722 / 0.000	-0.077 / 0.153	0.001 / 0.986
Emotional	-0.078 / 0.148	0.677 / 0.000	0.030 / 0.574
Behavioral	0.012 / 0.821	-0.027 / 0.605	0.781 / 0.000

According to the correlation analysis conducted to determine the relationship between organizational change and organizational creativity, significant and strong positive relationships were found between some sub-dimensions. A positive and significant high-level relationship was found between cognitive organizational change and individual creativity ($r = 0.722$, $p < .001$). This finding shows that as the level of cognitive acceptance of change increases, the tendency of employees to produce creative ideas and engage in innovative behaviors at the individual level also increases. Similarly, a strong and significant relationship was found between emotional organizational change and managerial creativity ($r = 0.677$, $p < .001$). This situation shows that employees who approach the change process emotionally positively are more open to creative applications at the managerial level. The relationship between behavioral organizational change and social creativity was also found to be quite high and significant ($r = 0.781$, $p < .001$). This result shows that individuals who behaviorally support change exhibit more creative attitudes in terms of cooperation, sharing and social interaction within the team. On the other hand, no significant correlations were found between cross-dimensions (e.g. cognitive-managerial, emotional-individual) ($p > .05$). This shows that organizational change and creativity perceptions have an interactive structure, especially between dimensions at the same level (cognitive-individual, emotional-managerial, behavioral-social).

Table 8. Regression Coefficients Regarding the Effect of Organizational Change on Organizational Creativity

Variable	B	Std . Error	Beta	t	p
Still	1,492	0.143	—	10,464	0.000
Organizational Change	0.470	0.121	0.185	3,891	0.000
F	Sig .	R	R Square		
15,927	0.000	0.217	0.047		

In this study, according to the simple linear regression analysis conducted to determine the predictive power of organizational change on organizational creativity, the model is found to be significant ($F = 15.927$, $p < .001$). The R^2 value for the regression model is 0.047, which shows that the organizational change variable explains approximately 4.7% of the total variance in organizational creativity. When the regression coefficients are examined, it is seen that the organizational change variable has a significant and positive effect on organizational creativity ($B = 0.470$, $\beta = 0.185$, $t = 3.891$, $p < .001$). This finding shows that as the level of organizational change increases, the organizational creativity levels of employees tend to increase. In other words, it can be said that the development of creative thinking is supported in organizations that embrace change and actively participate in transformation processes.

CONCLUSION

The findings obtained within the scope of this research provide important clues about the relationship between the concepts of organizational change and organizational creativity and how they are perceived based on individual differences. The evaluation of the participants according to gender and age groups revealed that intra-organizational change processes and creativity practices are significantly affected by demographic characteristics. Gender-based analyses show that female employees perceive organizational change more positively than males, and that this perception is significantly higher not only at a general level but also at cognitive, emotional and

behavioral levels. This situation reveals that female employees have more developed mental awareness of change, approach the process more positively emotionally and tend to exhibit behaviors that support change. It is also seen that women exhibit higher perceptions in terms of organizational creativity. The fact that women are more open to innovative thinking individually, support creative solutions at the administrative level and create productive environments based on cooperation at the social level can be evaluated as a resource that can increase the creative potential of organizations.

In the analyses related to age groups, it is seen that participants belonging to different age periods have different attitudes and perceptions on organizational change and creativity. It has been determined that especially the employees in the middle age group participate in the change processes more actively, evaluate the change more positively and have high cognitive awareness about organizational transformation. It is understood that the individuals in the young age group have high scores in the areas of individual and social creativity. These findings show that young employees are more prone to creative thinking, openness to different ideas and participation in innovative processes; while the individuals in the middle age group are more effective in conceptualizing, implementing and participating in change at the managerial level.

The relationships between organizational change and organizational creativity were also examined in detail in the study. The correlation results obtained revealed that there were significant and strong relationships between cognitive change and individual creativity, emotional change and managerial creativity, and behavioral change and social creativity. These matches show that the perception of change directly affects not only general attitudes but also the reflections of creativity at different levels. Individuals who mentally embrace change have an increased tendency to produce creative ideas; employees who exhibit a positive attitude at an emotional level make creative contributions to leadership and management processes; individuals who support change at a behavioral level draw a more productive profile in terms of communication, cooperation, and innovative social interactions within the team.

the predictive effect of organizational change on organizational creativity shows that the perception of change plays a significant role in the development of creative potential. Although the explained variance rate is limited, this finding reveals that organizations' effective management of change processes contributes to the formation of an organizational climate that encourages creativity. It can be said that organizations that internalize change, actively involve their employees in this process, and evaluate the potential of different age and gender groups can be more successful in producing innovative solutions and achieving sustainable competitive advantage.

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