Attitude, Leadership Style, Awareness, and Readiness of Academic Staff Towards Deaf Student Acceptance in Saudi Arabia

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Abstract: The study explores faculty attitudes, leadership styles, awareness, and readiness towards deaf students in Makkah, Saudi Arabia. 327 university faculty members participated, and quantitative analysis was conducted using SPSS and Smart-PLS. The findings demonstrate positive attitudes and leadership styles among Saudi faculty, leading to acceptance of deaf students. There is a significant relationship between variables, with faculty attitude positively influencing readiness for admitting deaf students. The study reveals an encouraging situation in Saudi Arabia, with faculty prepared to embrace deaf students. Transactional, transformational, and laissez-faire leadership styles are positively associated with acceptance. Increasing faculty awareness, particularly in special education, is emphasized to enhance readiness. Work experience moderates the relationship between variables. The study supports the Saudi Government's special education initiative and suggests increasing teacher awareness, implementing training programs, and offering tailored social courses for students with disabilities. Despite limitations, the research provides valuable insights into special education in Saudi Arabia.

Keywords: Attitudes, awareness, leadership styles, readiness, deaf, teacher.

1. Introduction

Before 1975, individuals with disabilities were denied public education opportunities. Reforms, such as the Education for All Handicapped Children Act and subsequent acts, mandated the inclusion of children with disabilities in mainstream education (Aron & Loprest, 2012). The primary objective was to provide equitable educational opportunities in the least restrictive environment. However, teachers' attitudes towards inclusion varied, influenced by practical concerns and support limitations. Teachers' attitudes were less favorable towards severe disabilities, while physical and sensory impairments received higher support (Vaz, Wilson, Falkmer, Sim, Scott, Cordier & Falkmer, 2015). The study focuses on teachers' attitudes, awareness, and leadership styles in relation to deaf students in Saudi Arabia, considering the context of modernization and traditional values. The level of teachers' awareness about special students' needs is a concern, as it affects their attitudes. Positive attitudes are linked to higher awareness, while lack of awareness leads to negative attitudes and reluctance to accept disabled students. Training programs aim to increase awareness, but limited research focuses on this aspect (Bruggnick, Goel, & Koot, 2015; Leko, Brownell, Sindelar, & Kiely, 2015; Smit & Humpert, 2012). The study aims to examine the relationship between attitudes, awareness, leadership styles, and readiness towards deaf students in Saudi Arabia in the context of special education.

Before 1958, individuals with disabilities in Saudi Arabia had no access to specialized educational services, and it was the responsibility of parents to provide support. In 1958, selected visually impaired students began studying at "scientific institutes." (Salloom, 1995). The Department of Special education was established in 1962 to enhance services for visually impaired, hearing impaired (deaf), and intellectually challenged students (Afeafe, 2000). Educational institutions for visually impaired students were established in Mecca, Aneaza, and Alhofouf in 1964, and the first institution for students with hearing impairments and intellectual disabilities was founded in 1972 (Al-Mousa, 1999).

The Ministry of Education in Saudi Arabia is responsible for providing inclusive and cost-free education to all students, including those with disabilities. However, negative attitudes towards children with disabilities persist among parents, peers, and academic staff. Discrimination and marginalization of individuals with disabilities are global issues rooted in stereotypes, prejudice, and stigma. In Saudi Arabia, attitudes towards disabled students vary based on age, gender, education, and location. While peer attitudes in inclusive educational systems tend to be positive, they often lean towards sympathy (Al-Mousa, Al-Sartawi, Al-Adbuljbbar, Al-Btal, and Al-Husain ,2006).

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Recent studies have raised concerns about negative attitudes among private school teachers towards disabled students (Rohwerder, 2018; Alhumaid, 2013). Addressing these issues requires further exploration and recommendations for government initiatives. The government of Saudi Arabia has passed laws and established organizations to protect the rights of people with disabilities and support their development and inclusion (Government of Saudi Arabia, 2020, para.2; Arab News, 2020). Efforts are also being made to extend special education programs, scholarships, and job opportunities at the higher education and professional levels. However, the enrollment of disabled students in universities remains low, indicating a need to investigate the barriers they face. The attitudes of university faculty members play a crucial role in accepting and supporting special students, emphasizing the importance of institutional support and teacher expertise. Therefore, this research focuses on exploring the attitudes of higher education academic staff towards deaf students (Government of Saudi Arabia, 2020).

Abdulaziz bin Saud gained authority over Makkah and Al Madinah in 1925, and in 1949, Makkah established the first higher education institution focused on Shari'a law (Al Medlij & Rubinstein-vila, 2018; Al-Mani & As-Sbit, 1981). In 1957, King Saud University was founded in Riyadh with 21 students, followed by the creation of an Islamic University in Al Madinah. The Petroleum and Minerals Institution, founded in Dhahran in 1963, became the country's first secular university. King Abdulaziz University in Jeddah, established in 1967, offered a mix of secular and religious faculties. Women's campuses were established in Jeddah, Makkah, Dammam, and Riyadh at different times. The Ministry of Higher Education was established in 1975, providing free tertiary education and overseeing private universities. As of 2020, there were 30 government universities, including one for women. In 2015, the Ministry of Education merged, resulting in the administration of ten private universities and 41 private institutions (Hamdan, 2005; Higher Education, 2020).

In the past, there was limited demand and implementation of Inclusive or Special Education (SE) in Saudi Arabia (Schwab & Alnahdi, 2020). However, there has been an increase in the number of SE programs, driven by economic benefits to academic staff and students' growing interest in SE. Despite negative social attitudes towards disabilities in Arab society, the demand for SE departments with different specializations has increased over the last decade (University of Hail, 2015). Saudi universities have revised their educational programs and policies to accommodate students with disabilities, including special training for academic staff. Access to higher education is crucial for students with disabilities to improve their employment opportunities and living standards (Alnahdi, 2019). The number of students with disabilities, particularly those with hearing impairments, has been growing, and efforts have been made to support deaf students in higher education through training programs for academic staff and the implementation of supportive services (Alqarni& Abdulbari, 2019). However, further initiatives are needed to ensure all students can reach their full potential. Legislation such as Every Student Succeeds Act (ESSA) and the Individuals with Impairments Education Act (IDEA) in the United States also play a role in supporting students with disabilities. Studies have highlighted the need for improved knowledge and attitudes among students without disabilities, as well as better accommodations and a supportive learning environment (Tomasello & Brand, 2018). While progress has been made in increasing college and job preparedness for students with disabilities, there is still work to be done to improve graduation rates among this group (Alqarni et al.,2019).

Saudi Arabia has made efforts to include deaf students in the mainstream educational system, prompted by international obligations and goals under Vision 2030 (King Abdullah University of Science and Technology, 2019; Romero-Contreras et al., 2017; UNESCO, 2019). Changes in legislation, institutions, policies, and programs have been implemented to extend educational opportunities to deaf students. The Disability Welfare Act provides a legal framework for promoting and protecting the rights of persons with disabilities. Policy reforms, such as the Quality of Life program, ensure accessible infrastructure and services to enable people with disabilities to live independently and integrate into society. In the educational system, sign language has been included in programs, and training for teaching staff and deaf students has been conducted. Special educational institutions have been established to meet the needs of disabled students (United Nations Human Rights, 2019). The Ministry of Media and Information has developed media content on people with disabilities, and awareness programs aim to promote social integration and equal opportunities while eliminating negative stereotypes and social stigma.

The report to the United Nations Human Rights Committee highlighted the presence of institutions for persons with severe and multiple disabilities, supervised by the Human Rights Commission. Responsibilities for special education are shared between the Ministry of Education's Department for Special Education and mainstream institutions for mild to moderate students with disabilities (UNESCO 2015).

1.2 Relationship of Academic staff's attitude, leadership style and awareness with readiness toward acceptance of disabled students

This section examines the relationship between academic staff's attitude, leadership style, awareness and readiness towards accepting deaf students. Earlier research focused on students, but now faculty attitudes are important (Saloviita, 2020). Considered are attitudes' role in inclusion's success/failure (Murray et al., 2008; de Boer et al., 2011; Pérez-Jorge et al., 2021).

Studies show faculty believe disabled students can succeed with support (Aminah et al., 2021; Azlisham et al., 2021). Attitudes influence quality and inclusion levels (Sniatecki et al., 2015). Factors like gender and discipline are considered (Zaki & Ismail, 2021; Lombardi et al., 2013).

Academic staff must handle SEN students. Inclusion training boosts attitudes and confidence (Sharma et al., 2008; Subban & Sharma, 2005). However, inclusion components taught depend on instructors (Kantavong et al., 2012). Exclusion occurs despite efforts, linked to norms-based thinking (Ruppar et al., 2015; Norwich & Ylonen, 2015; Hodkinson, 2012). Training and awareness are important for accommodations (Collins et al., 2018; Lipka et al., 2019). Support also comes from faculty attitudes, experience and training (Murray et al., 2008).

Leadership involves influencing others through beliefs, personality and context (Zaccaro, 2007; Spillane, 2004). In special education, leadership requires envisioning individual needs (Crockett, 2002; DiPaola et al., 2004).

The style of academic staff as leaders depends on factors like situation complexity (Hersey, 1997; Bass, 1985). Flexibility is needed based on student readiness (Aric, 2007). Special education leadership requires practical skills (Boscardin, 2007).

Academic staff readiness refers to preparation for change (Hay et al., 2001). Knowledge and skills are needed for inclusion (Mthembu, 2009). Leadership impacts workload (Mati & Kadi, 2014; Mohamad & Yaacob, 2013).

Awareness and training help accommodate students (Sniatecki et al., 2015; Mthembu, 2009). Lack of training impacts readiness (Kapinga, 2014). Attitudes influence values and acceptance (Hitryuk, 2013). Readiness involves professional and psychological preparation (Movkebayeva et al., 2016). It reflects responsibility and willingness for change (Smith & Paulsen, 2001; Spies, 2013).

1.3 Literature Gap

The existing literature review indicates that research on disabled students is primarily focused on the Western context, where inclusive education has been implemented. However, developing countries, including Arab countries, are also working towards inclusive education reforms. While progress has been made at the basic level, there is still a need to include deaf or disabled students in higher educational institutions (Abu-Hamour (2013). Research specific to special education and deaf students in the Arab region is lacking. Studies have shown inconsistent findings regarding the attitudes of academic staff towards deaf students in higher education. Some studies demonstrate positive attitudes and a belief in the benefits of including students with disabilities, while others reveal challenges and resistance (Alnahdi, & Schwab, 2021). The current research aims to fill this literature gap by focusing on deaf students in universities and exploring the attitudes of academic staff. It also contributes to the evolving literature on inclusive education in the Arab context. Additionally, the research examines the context of Saudi Arabia, where efforts are being made to include disabled students in higher education. The literature also highlights the need for adequate support services and training for academic staff to ensure the success of inclusive education. The existing literature in Saudi Arabia does not adequately demonstrate the beneficial impacts of inclusive educational reforms, despite initiatives and training programs (Hammami et al., 2017; Al Medlij and Rubinstein-Ávila, 2018). Therefore, there is a need for further research to assess the progress and challenges in the attitudes, knowledge, and leadership styles of academic staff in Saudi Arabia.

1.4 Problem Statement:

 The progress made in special education in Saudi Arabia and other countries has improved outcomes for people with disabilities (Aldousari & Dunn, 2022). However, challenges such as differences in teacher attitudes, awareness, skills, and perception towards special education, as well as limited institutional reforms for accepting deaf students, hinder inclusive education (Somma & Bennett, 2020; Alzyoudi, Opoku & Moustafa, 2021). This research aims to explore the attitudes, awareness, teaching leadership, and readiness of higher education faculty in Saudi Arabia towards deaf students. Limited enrollment of deaf students and societal negative attitudes necessitate a focus on teachers' attitudes and awareness. Teachers' awareness positively contributes to solving students' problems and promoting their success (Somma & Bennett, 2020). The study also examines the level of awareness among faculty members and their understanding of deaf students' needs. Furthermore, teachers' knowledge about special students and their needs, along with their leadership role, plays an important part in inclusive education (Alzyoudi, Opoku & Moustafa, 2021). Teacher leadership is crucial in improving teaching quality and learning outcomes (Besides, Nguyen, Harris and Ng ,2019; Wenner and Campbell, 2017). The current research explores teacher leadership in inclusive education and its impact on faculty readiness to accept deaf students in Saudi Arabia. Given the inconsistent findings related to attitudes towards disabled students and the lack of research on higher education institutions and faculty members, this study addresses these gaps and focuses on university faculty members' attitudes, awareness, teaching leadership, readiness, and work experience in inclusive education.

1.5 Research Objectives:

This study aims to explore the attitudes, awareness, leadership styles, and readiness of university faculty in Saudi Arabia towards accepting deaf students. The specific research objectives are:

Investigate the level of attitude, awareness, leadership style, and readiness among academic staff in higher education institutions in the Makkah Region, Saudi Arabia, towards accepting deaf students. Determine the relationship between attitude and readiness among academic staff in higher education institutions in the Makkah Region, Saudi Arabia, towards accepting deaf students. Determine the relationship between awareness and readiness among academic staff in higher education institutions in the Makkah Region, Saudi Arabia, towards accepting deaf students. Determine the relationship between leadership styles (transactional, transformational, and laissez-faire) and readiness among academic staff in higher education institutions in the Makkah Region, Saudi Arabia, towards accepting deaf students.

a. Investigate the relationship between transactional leadership style and readiness towards accepting deaf students.

b. Investigate the relationship between transformational leadership style and readiness towards accepting deaf students.

c. Investigate the relationship between laissez-faire leadership style and readiness towards accepting deaf students.

Investigate the moderating role of work experience on the relationship between attitude, leadership style, awareness, and readiness among academic staff in higher education institutions in the Makkah Region, Saudi Arabia, towards accepting deaf students.

1.6 Research Questions

According to Research Objectives, below Research Questions of the study are stated:

1   What is the level of attitude, leadership style, awareness and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities?

2   Is there any relationship between attitude and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities?

3   Is there any relationship between awareness and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities?

4   Is there any relationship between leadership style and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities?

   a.   Is there any relationship between transactional leadership style and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities?

   b.   Is there any relationship between transformational leadership style and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities?

   c.   Is there any relationship between Laissez-faire leadership style and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities?

5   Dose work experience significantly moderate the relationship between attitude, leadership style, awareness and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities?

1.7 Significance of the Study

This study aims to improve the university's environment by identifying obstacles deaf students face in admission. Understanding obstacles can help facilitate inclusion and success through training, preparation for deaf students in lectures, and interpreters (Oyaid, 2009). Findings provide information for developing strategies making higher education accessible for deaf students in Saudi Arabia.

The study assists deaf Saudi graduates in enrolling, supporting them through studies, and aiding graduation. It seeks to improve deaf students' educational experiences and ensure equal opportunities by addressing concerns and needs. Studying increases awareness of challenges and opportunities in higher education, fostering an inclusive environment. The study bridges the gap in literature by providing insights for deaf students in Saudi Arabia. It contributes unique perspective on experiences and needs of deaf students in a particular context, expanding understanding of inclusive education for deaf students (Alsamiri, 2017).

This study focused on inclusive education for deaf students in Saudi Arabia, examining faculty attitudes, awareness, and leadership styles related to acceptance of deaf students. The quantitative survey recorded faculty responses which were statistically analyzed. Limitations include the sample and size being less generalizable due to population, sampling technique and constraints. The study was limited to five universities in Makkah region and excluded faculty with less than three years' experience. Other limitations were the English research instrument, which participants were familiar with but not translated into Arabic. The study was also limited theoretically to leadership style theory and theory of

planned behavior, without including additional cultural or psychological variables.

2. RESEARCH METHODOLOGY

2.1 Research Hypothesis

To examine the relationship between the independent, dependent and moderator variables of the study, the following hypotheses are formulated:

H_1: There is a significant relationship between attitude and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities.

H_2: There is a significant relationship between leadership styles and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities.

H_21: There is a significant relationship between transactional leadership style and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities.

H_22: There is a significant relationship between transformational leadership style and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities.

H_23: There is a significant relationship between Laissez-faire leadership style and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities.

H_3: There is a significant relationship between awareness and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities.

H_4: Work experience significantly moderates the relationship between attitude, leadership style, awareness and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities.
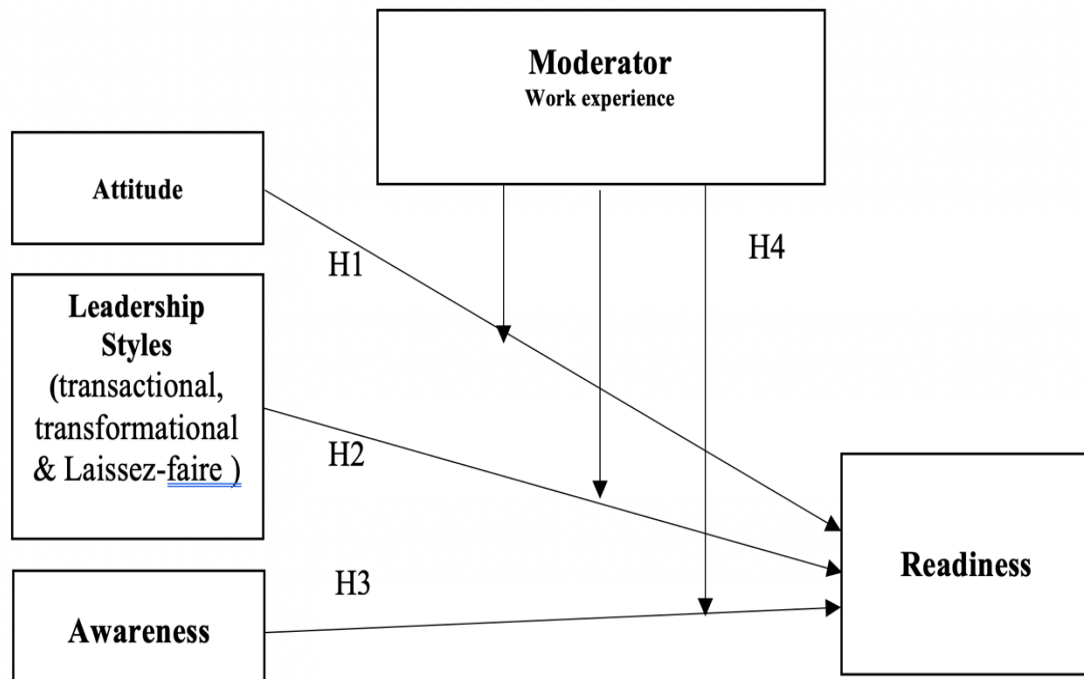
2.2 Conceptual Framework

Fig. 1: Conceptual Framework

2.3 Method:

The total number of academic staff in each university as well as the sampling proportion and total required sample from each university considering 260 as the total sample size.

2.4 Research Instrument:

In this study, a structured questionnaire with five sections was used to collect primary data from staff.

Section I (demographic):

This section comprises five questions gathering personal information, including age, gender, educational qualification, marital status, work experience, and special education training.

Section II (attitude):

A questionnaire based on Alajlan, M. (2017) was used to assess the respondents' attitudes towards the inclusion of deaf or hard of hearing students in higher education in Saudi Arabia. The questionnaire consisted of 14 items, which participants rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Section III (leadership styles):

The Multifactor Leadership Questionnaire (MLQ) was used to assess the respondents' leadership styles. The MLQ is a well-established instrument that has been in use since the 1970s. It evaluates various leadership styles, including passive, contingent reward-based, and transformational leadership. The MLQ consists of different versions, with MLQ x5 being widely used. In this study, the MLQ-6S, a variant of MLQ, was adopted. It consists of 21 items that measure transformational, transactional, and laissez-faire leadership styles. The questionnaire was rated on a 5-point Likert scale.

Section IV (Awareness):

The respondents' awareness was assessed using a questionnaire based on the Learning Disability Knowledge Questionnaire (LDKQ) developed by Kidd, Gillian Rebecca (Kidd, 2000). The questionnaire consists of 28 items that require true/false answers.

Section III (Readiness):

A questionnaire based on Robinson's survey was used to assess the respondents' readiness for teaching deaf students. Robinson developed the survey specifically for his study on determining the readiness of general educators who work with students with learning difficulties. The questionnaire consisted of 9 items adapted and modified from the Teaching and Learning International Survey (TALIS) conducted by the Organization for Economic Co-operation and Development (OECD) in 2009.

2.5 Validity of instruments

In this study, the final set of items covering various domains in the questionnaire underwent content validation. A panel of six professionals familiar with the subject matter evaluated the content validity through a questionnaire, assessing the relevance and clarity of each item. To statistically examine the content validity, a Content Validity Index (CVI) was calculated. Each item was rated on a four-point scale (1 = not relevant, 2 = somewhat relevant, 3 = relevant, 4 = highly important) to determine the CVI for consistency, representativeness, relevance, and clarity. The CVI for each item was calculated by dividing the number of experts who rated it as 3 or 4 by the total number of experts. The agreement on the degree of relevance was assessed using the Kappa Modified Coefficient (Polit & Beck., 2006). Results showed that all items showed high content validity for the relevance (CVI=0.80-1.00 and Kappa= 0.76-1.00), and clarity (CVI=0.80-1.00 and Kappa = 0.76-1.00), all items content and face validity met the thresholds and retained in the next step except six items (AW7, AW15, AW23, AW24, AW26 and AW28) which were excluded from the scale.

2.6 Pilot study

A pilot test was conducted to evaluate the reliability of the questionnaire before implementing it in the main study. The decision to have 28 staff members participate in the pilot test was based on the recommendation by Johanson and Brooks (2010) that 30 participants are sufficient for a preliminary survey. Reliability testing was conducted on all survey questions for academic staff, The findings indicate that all instruments demonstrated a satisfactory level of reliability, as the alpha values were above 0.7. Additionally, the corrected item-total correlations were examined to further assess the reliability of the items.

Table 1: Questionnaire reliability results

Construct	Number of adapted items	Cronbach's alpha
Attitude	14	0.849
Awareness	22	0.819
Leadership style	21	0.832
Readiness	9	0.717

2.7 Data analysis

SPSS (version 25) was used to evaluate data distribution before inferential analysis. PLS-SEM was used with SmartPLS 4.0. The measurement model was tested for convergent and discriminant validity, then the constructs' convergent validity was verified by assessing the average variance extracted. followed by composite reliability (CR). Discriminant validity was tested using the Hetrotrait-Monotrait ratio of correlations (HTMT). Bootstrapping determined path coefficients for the structural model. Finally, moderatin analysis using a two-stage approach in SmartPLS. The significance level for all tests is 5%.

3. Results

A total of 500 questionnaires were distributed and 352 questionnaires were returned indicating that the response rate was 70.4%. Out of 352 received questionnaire 25 questionnaires were not completed for all variables therefore they were excluded from the final data set. Most were aged 31-40 (57.8%) or 41-50 (33.9%). Males comprised 66.4% of respondents. The majority held a master's degree (63.3%) or PhD (36.7%). Most were married (87.2%) with 6-10 years job experience (52%). The majority (64.8%) had not attended special education training programs.

3.1 Descriptive Statistics

To evaluate the first research question "What is the level of attitude, leadership style, awareness and readiness toward acceptance of deaf students among academic staff in higher education in Makkah Region, Saudi Arabia Universities?", descriptive statistics including mean and standard deviation were calculated for all constructs. Results showed that the mean scores for all variables (except knowledge) exceeded the midpoint of 3, indicating a moderate level. The highest mean was for intellectual stimulation (M=3.719), followed by idealized influence (M=3.50) and inspirational motivation (M=3.481); the lowest was for readiness (M=3.141). Awareness used a binary scale (wrong/correct) and total mean score exceeded the midpoint of 11 (M=14.798), also indicating above moderate level.

Table 2: Descriptive statistics for all research variables

Variable	Minimum	Maximum	Mean	Std. Deviation
Idealized influence	1	5	3.500	0.923
Inspirational motivation	1.33	5	3.481	0.874
Individualized consideration	1.33	5	3.339	0.768
Intellectual stimulation	1.33	5	3.719	0.798
Contingent reward	1	5	3.289	0.954
Management-by-exception	1	5	3.480	0.803
Laissez-faire leadership	1	5	3.480	0.917
Attitude	1.57	4.79	3.465	0.719
Awareness	2	22	14.798	4.596
Readiness	1.33	4.33	3.141	0.622

3.2 Measurement model assessment

3.2.1 Convergent validity

Checking the CR (composite reliability) and Cronbach's alpha to assess internal consistency is part of the analysis of the reflecting measurement models. The composite reliability (CR) scores were in the range of 0.754 to 0.951, which was higher than 0.7 and indicated a reliable value for all variables.

Table 3: The result of convergent validity

Construct	Item	Outer loading		Cronbach's Alpha	Composite Reliability	AVE
		Initial model	Modified Model			
Attitude	AT1	0.336	Deleted	0.945	0.951	0.602
	AT10	0.714	0.713			
	AT11	0.785	0.787			
	AT12	0.766	0.764			
	AT13	0.743	0.745			
	AT14	0.759	0.76			
	AT2	0.793	0.792			
	AT3	0.768	0.768			
	AT4	0.781	0.780			
	AT5	0.794	0.791			

	AT6	0.818	0.820			
	AT7	0.794	0.795			
	AT8	0.78	0.781			
	AT9	0.779	0.781			
Management -by-exception	ME1	0.87	0.722	0.815	0.89	0.73
	ME2	0.868	0.711			
	ME3	0.825	0.825			
Contingent Reward	CR1	0.768	0.768	0.759	0.861	0.673
	CR2	0.855	0.654			
	CR3	0.836	0.638			
Intellectual Stimulation	IS1	0.842	0.842	0.743	0.854	0.661
	IS2	0.801	0.802			
	IS3	0.795	0.603			
Idealized Influence	ID1	0.856	0.582	0.826	0.896	0.741
	ID2	0.847	0.847			
	ID3	0.88	0.608			
Inspirational Motivation	IM1	0.88	0.88	0.771	0.869	0.689
	IM2	0.852	0.852			
	IM3	0.752	0.524			
Individualized consideration	IC1	0.799	0.535	0.789	0.877	0.703
	IC2	0.872	0.872			
	IC3	0.843	0.621			
Laissez-faire Leadership	LF1	0.829	0.83	0.624	0.794	0.573
	LF2	0.864	0.865			
	LF3	0.532	0.531			
Readiness	RD1	0.593	0.588	0.868	0.898	0.525
	RD2	0.74	0.741			
	RD3	0.74	0.75			
	RD4	0.738	0.745			
	RD5	0.367	Deleted			
	RD6	0.642	0.639			
	RD7	0.826	0.832			
	RD8	0.74	0.744			
	RD9	0.726	0.730			
Awareness	KNW.	1	1	1	1	1

3.2.2 Discriminant Validity

HTMT (Hetrotrait-Monotrait ratio of criteria) provides an estimation of hypothetical correlations between constructs without measurement error (Henseler et al., 2015). To examine discriminant validity, HTMT was used for the model. Hair et al. (2010) state HTMT needs to be less than 0.90. Table 4 shows all values were below 0.9, demonstrating discriminant validity.

Table 4: Correlation of latent constructs and discriminant validity (HTMT method)

Construct	1	2	3	4	5	6	7	8	9
1. Attitude									
2. Contingent reward	0.313								
3. Idealized influence	0.205	0.404							
4. Individualized consideration	0.314	0.400	0.342						
5. Inspirational motivation	0.371	0.359	0.239	0.334					
6. Intellectual stimulation	0.275	0.429	0.44	0.406	0.447				
7. Awareness	0.281	0.346	0.258	0.415	0.3	0.402			
8. Laissez-faire leadership	0.337	0.199	0.146	0.337	0.289	0.273	0.272		
9. Management-by-exception	0.347	0.291	0.379	0.41	0.312	0.421	0.310	0.221	
10. Readiness	0.486	0.396	0.314	0.595	0.385	0.49	0.583	0.476	0.607

3.3 Path analysis

This section explains the relationship between constructs and the predictive power of a model. According to Hair et al. (2014), Figure 1 depicts a methodical process for evaluating the outcomes of a structural model.   Path analysis using SEM was applied to assess the research hypotheses according to the path model. This examined the effects of attitude, leadership styles, and awareness (independent variables) on readiness toward acceptance of deaf students (dependent variable), with work experience as a moderator. Bootstrapping was used to analyze the proposed hypotheses, examining dataset validity and significance of path coefficients. Bootstrapping involved resampling the dataset to produce new samples the same size. The significance of paths, standardized path coefficients (β), and R2 for each endogenous variable were assessed. Path significance p-values from bootstrapping showed the effects of all independent variables on readiness were statistically significant.
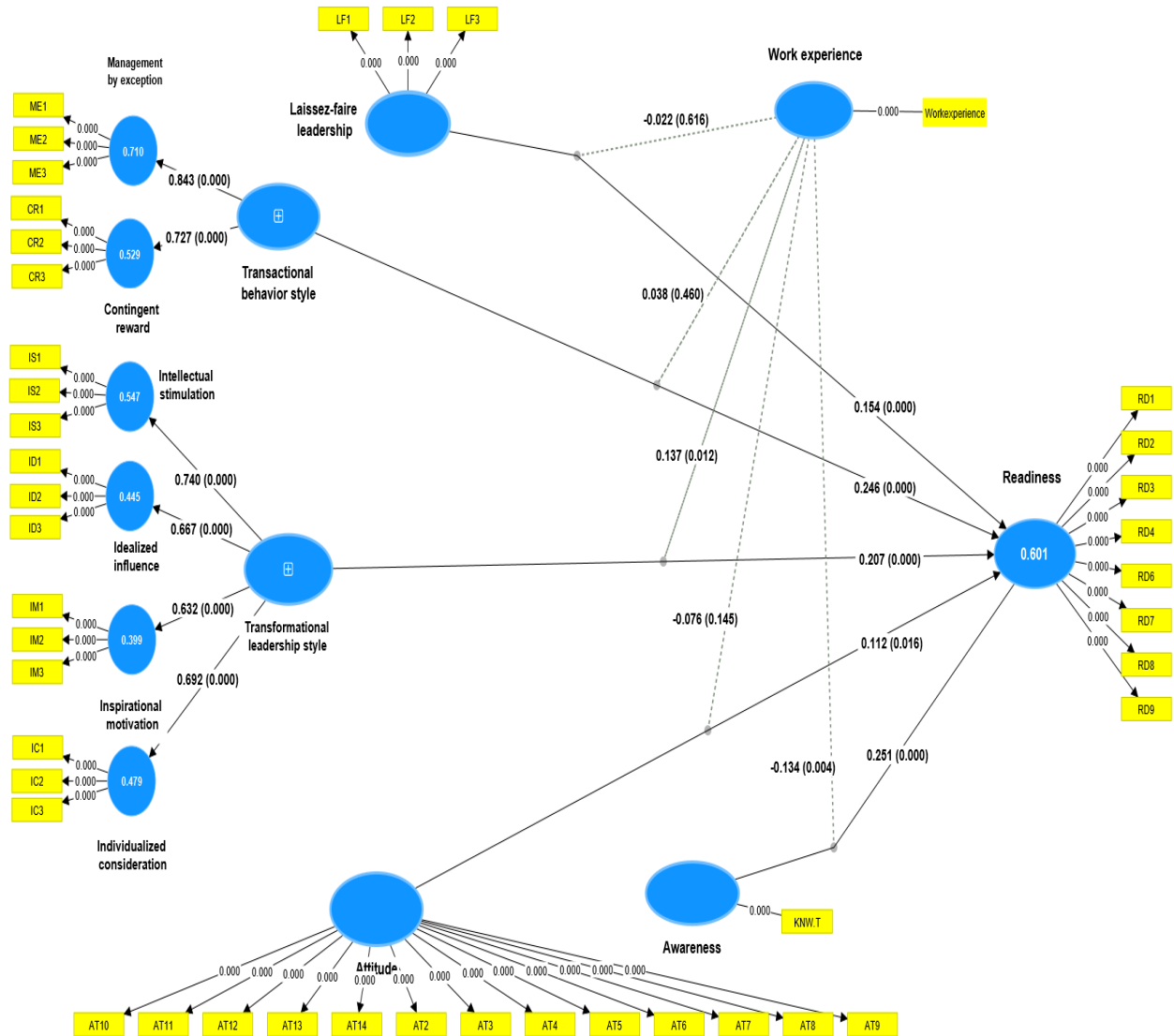

Fig. 2: Path model (Bootstrapping)

According to these results the effect of attitude on readiness toward acceptance of deaf students was positive and significant (β =0.112, p=0.016). Similarly, awareness (β=0.251, p<0.001) had a positive and significant relationship with readiness toward acceptance of deaf students. These results revealed three leadership style including transactional leadership style (β=0.246, p<0.001), transformational leadership style (β=0.207, p<0.001) and laisse-fair leadership (β=0.154, p<0.001) had a positive and significant relationship with readiness toward acceptance of deaf students. For readiness as the endogenous variable (Table 4.15), awareness (f2=0.114) and work experience (f2=0.154) had a medium effect, while transactional (f2=0.094), transformational (f2=0.059) and laissez faire (f2=0.051) leadership styles had small-medium effects. Attitude (f2=0.023) had a small effect. This shows awareness and work experience as moderator had the strongest effects on readiness to accept deaf students.

Table 0: List of hypotheses and relative paths for first model

	Path	β	SE	T value	P Values
H1	Attitude -> Readiness	0.112	0.046	2.407	0.016
H3	Awareness -> Readiness	0.251	0.04	6.237	<0.001
H2-1	Transactional -> Readiness	0.246	0.05	4.903	<0.001
H2-2	Transformational > Readiness	0.207	0.054	3.808	<0.001
H2-3	Laissez-faire -> Readiness	0.154	0.039	3.905	<0.001

The R^2 value for readiness to accept deaf students, the endogenous variable, was 0.586 indicates the independent variables of attitude, awareness, and leadership styles can explain 58.6% of the variability in respondent readiness toward acceptance of deaf students.in this study, with a value of (0.561) being greater than zero for the Q^2 values of readiness toward acceptance of deaf students (Hair et al., 2011).
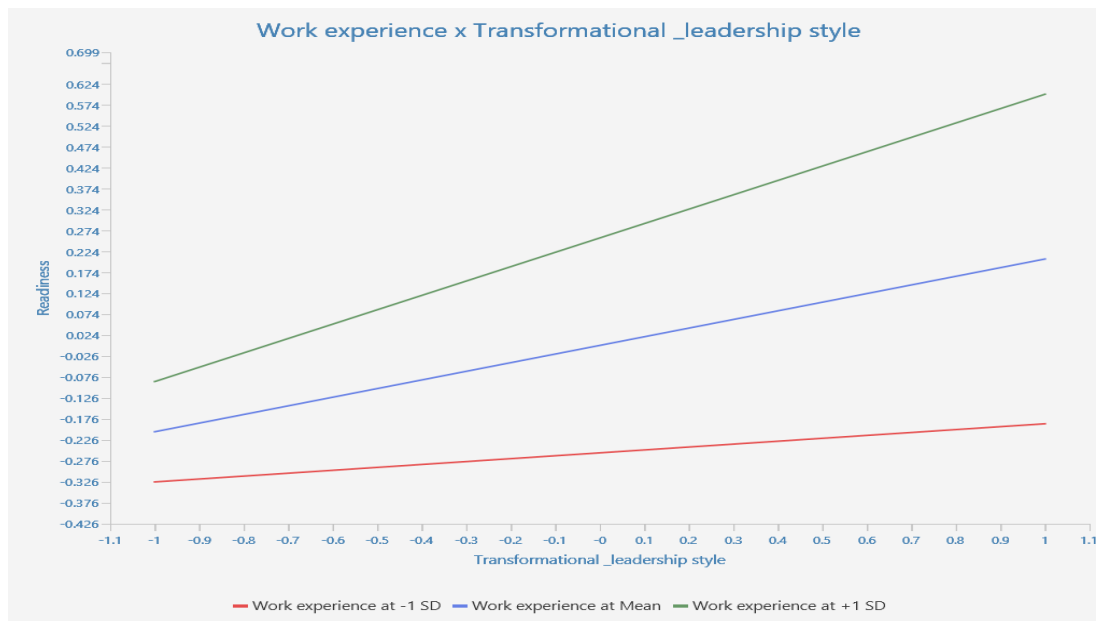
3.4 Moderation analysis

Work experience was added as a moderator using two-stage approach in SmartPLS. The interaction between work experience and transactional style on readiness was positive but not significant (β =0.038, p=0.460), indicating no moderation. The interaction on readiness between work experience and transformational style was positive and significant (β =0.137, p=0.012), indicating moderation. The interaction between work experience and laissez-faire leadership on readiness was negative but not significant (β =-0.022, p=0.616), also no moderation. The interaction between work experience and attitude on readiness was negative and not significant (β =-0.076, p=0.145), no moderation. The interaction between work experience and awareness on readiness was negative and significant (β =-0.134, p=0.004), indicating moderation.

Table 6: Test of moderating effects work experience on relationship between independent variables and readiness

Hypothesis	Moderating Effect	B	SE	T value	P Values
H4-1	Exp * Transactional -> Readiness	0.038	0.051	0.738	0.46
H4-2	Exp *Transformational -> Readiness	0.137	0.055	2.518	0.012
H4-3	Exp * Laissez-faire -> Readiness	-0.022	0.045	0.502	0.616
H4-4	Exp * Attitude -> Readiness	-0.076	0.052	1.457	0.145
H4-5	Exp * Knowledge -> Readiness	-0.134	0.046	2.901	0.004

Based on these findings it can be found that when the level of work experience increases then transformational leadership style had more effect more on the readiness which can be seen in the graph of slop analysis. (Figure 3)

Fig. 3: Slope analysis for moderation effect of work experience on relationship between transformational leadership style and readiness

Based on these findings it can be found that when the level of work experience increases then transformational leadership style had more affect more on the readiness which can be seen in the graph of slop analysis. (Figure 4)
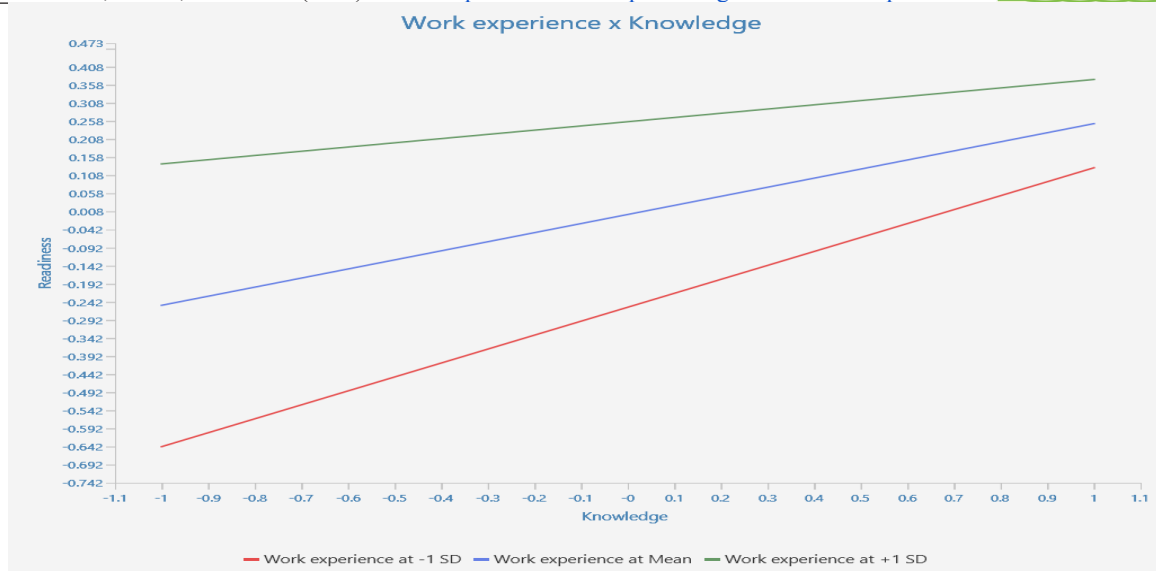
Fig. 4: Slope analysis for moderation effect of work experience on relationship between awareness and readiness

4. Conclusion

The results showed the average levels of attitude, leadership styles (transformational, transactional, laissez-faire), awareness and readiness toward acceptance of deaf students among academic staff in Makkah region universities. Specifically, the results indicated moderate levels of attitude, transformational leadership, awareness and readiness. Transactional leadership was high while laissez-faire was moderate. This addressed the first research objective of investigating these levels.

The current assessment of academic professionals in Saudi Arabia indicates room for improvement. Supplementary programs and training for educators are necessary to support deaf students in higher education. The Ministry of Education plays a crucial role in providing assistance and allocating resources, including educational facilities, technology, and communication aids for students with hearing impairments. The administration should establish a professional framework that promotes inclusion and accommodates deaf students. Training opportunities should prioritize deaf education and effective teaching techniques for students with diverse learning needs. Dedicated divisions and workshops on deaf culture, sign language, and pedagogical strategies would enhance professional growth. Incentives and prizes are important for encouraging academics to engage in inclusive education training. By implementing these measures, Saudi Arabia can create an environment that facilitates the integration of deaf students into higher education, promoting equal opportunities and accessibility for all.

4.1 Implications of the Study:

This research expands knowledge on inclusive education in Saudi Arabia's higher education system. It provides insights into the factors that affect the integration of students with hearing impairments. Specifically, it highlights the positive relationship between attitude, leadership style, awareness, and readiness to embrace deaf students. The study bridges theory and practice by offering empirical evidence supporting the correlation between variables and the acceptance of deaf students. The findings emphasize the importance of fostering positive attitudes, implementing appropriate leadership styles, and increasing awareness among academic staff to promote the inclusion of deaf students in higher education.

Additionally, This study provided insights into the cultural factors influencing attitudes, leadership styles, awareness and readiness to accommodate deaf students in Makkah region universities in Saudi Arabia. The findings supported the assumptions of the leadership and Readiness theories among faculty. Although Saudi culture differs, the theory implications remain. The results are useful for researchers and policymakers seeking to address cultural nuances and tailor inclusive education initiatives within the Saudi higher education system.

Furthermore, results can inform policies to promote inclusiveness for deaf students in Makkah Region universities. And provide valuable information for deaf students, faculty, and Saudi government to enhance special education programs, increase enrollment, provide ongoing assistance, and support degree completion. Overcoming obstacles and maximizing opportunities cultivates a more inclusive atmosphere. Insights may also guide interventions to enhance acceptance and support for students with hearing impairments through faculty professional development programs.

4.2 Future Research Recommendations

- Broaden the scope by exploring additional factors or comparing across other areas/environments.

- Conduct qualitative research to gain deeper insights into deaf students' perceptions, challenges, and problems in higher education.

- Use both quantitative and qualitative approaches to address objectives more holistically and gain a deeper understanding of challenges faced.

- Acknowledge limitations of this study and consider adding more variables like psychological well-being, quality of life, social support, work environment to provide a more comprehensive picture of deaf students' experiences and inform recommendations.

- Multi-method approaches and additional variables would improve comprehensiveness and precision for understanding obstacles faced by deaf college students.

Conflict of interest

The authors declare that there is no conflict regarding the publication of this paper.

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