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Original Research Article

Do Cultural Norms Affect Perceptions of People with Disabilities in Saudi Arabia?

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Abstract

People have different attitudes and perceptions about disabilities and people with disabilities. Cultural norms may affect how people develop these perceptions and how they communicate with people with disabilities, thereby affecting their social integration and inclusion in society. The hypothesis that cultural norms influence perceptions and communication between people with and without disabilities in Saudi Arabia was tested. Self-report data from 141 Saudi Arabian adults were secured using a survey that included assessments of perceptions and communication between people with and without disabilities. The investigation focused on variations in the responses by gender, age, and disability status. The results provide some evidence that cultural norms impact perceptions and communication between people with and without disabilities in Saudi Arabia. These and other results suggest that cultural norms influence perceptions of people with disabilities, most recently motivating positive integration and inclusion of people with disabilities in Saudi Arabia.

Keywords

Disability, Communication, Cultural Norms, Non-disabled, Integration, Inclusion, Saudi Arabia

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Cultural norms may affect social perceptions of people with disabilities. Culture includes many complex and dynamic phenomena shaped by a belief and value system developed over the course of a person's life (Almarwani et al., 2020). These phenomena include traditions, education, language, religion, and social standards, and typically become normative for a society when practiced continuously over several generations (Almarwani et al., 2020). Cultural norms may affect social perceptions of disabilities because of the connotations and perceptions of the causes of disabilities (Al-Aoufi et al., 2012).

Historically, people with disabilities have co-existed with their non-disabled counterparts. However, disabilities are not common and social perceptions vary depending on whether the disability is physical or mental (Nada, 2019). Unfortunately, the often negative perceptions of disabilities facilitate negative stereotypes that can lead to discrimination and isolation (Alofi, 2019). For instance, people with disabilities must often fight for the right to participate in social, economic, and political spaces (Alofi, 2019). Discrimination against and isolation of people with disabilities typically occurs due to limited knowledge about and awareness of disabilities as well as negative perceptions of disability (Hammad et al., 2022). This affects whether and how people with disabilities are integrated and included in social activities (Aldakhil, 2022). This also affects whether and how people communicate with people with disabilities (Aldakhil, 2022). Therefore, cultural norms can influence communication with and attitudes toward people with disabilities (Al-Aoufi, 2012).

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Two theoretical frameworks address the issue of disability in society. The first is the medical model, which views disability as a personal flaw or physical condition requiring a cure (Petasis, 2019). The idea that disability is viewed as an individual problem or a medical condition means that the goal should be to cure, treat, and rehabilitate the individual so that they align more closely with societal norms (Petasis, 2019; Zaks, 2023). However, not all disabilities can be cured or treated (e.g., congenital blindness), limiting this model in terms of providing solutions for integration and inclusivity. The social model of disability, on the other hand, defines disability not as an individual's physical or mental impairment, but as a result of the interaction between people with impairment and an environment that presents physical, attitudinal, communication, and social barriers (Goering, 2015; Macmbinji, 2023). The social model of disability directly links with cultural norms and, therefore, forms the basis for this study. It is possible that systemic environmental barriers stem from historic isolation of persons with disabilities that continue to shape cultural norms. A change in culture that includes and integrates persons with disabilities can also lead to the removal of exclusionary policies, and ensure that persons with disabilities have accessible infrastructure. Both medical and social models of disability, however, show that disability and people with disabilities often are subject to negative perceptions.

Questions Guiding the Current Research

The main question guiding the current research is: Do cultural norms influence perceptions and communication between people with and without disabilities in Saudi Arabia? Other related research questions include: What factors of Saudi Arabian culture influence these perceptions and attitudes? How do Saudi Arabian religion, education, and media influence perceptions of people with disabilities? The specific hypothesis tested can be framed as follows:

H0: Cultural norms do not impact perceptions and communication between people with and without disabilities.

Ha: Cultural norms impact perceptions and communication between people with and without disabilities.

The current study explores the potential role of cultural norms in influencing perceptions of and communication with people with disabilities in Saudi Arabia. The findings may suggest the need for greater open-mindedness towards people with disabilities. Such open-mindedness can be positive in terms of improving communication with people with disabilities and the integration and inclusion of people with disabilities.

Literature Review

Cultural norms can be defined as shared, often unwritten, rules and expectations that govern behavior within a specific group or society (Young, 2015). They dictate what is considered acceptable, appropriate, or typical, shaping most social interactions (Young, 2015). Norms can also refer to the behaviors and standards expected of people to thereby uphold values (Latif, 2020). Therefore, cultural norms involve how society translates abstract ideas into daily activities based on shared values and norms. For instance, persons with disabilities can be respected or discriminated against by others based on shared cultural norms and values (Young, 2015). Perceptions refer to how a society's shared beliefs, values, and language shape the way individuals sense, categorize, and interpret the world around them (Irrmann, 2010). Such perceptions can affect what people focus on and how they judge others (Irrmann, 2010). For instance, if persons with disabilities are perceived as incapable of working hard compared to their non-disabled counterparts, then they may be discriminated against in the job market. Therefore, cultural norms and perceptions influence how people view persons with disabilities and how they are treated. Communication is one means of expressing people's attitudes and perceptions (Liu et al., 2018).

Cultural norms and perceptions can affect people's attitudes and how they communicate and express themselves (Madhesh, 2022). Cultural norms in Saudi Arabia are deep-seated in religiosity, and may affect attitudes about persons with disabilities and communication between persons with disabilities and non-disabled persons. Tausch (2016) noted that, Arab perceptions of people with disabilities are not favorable and that such negative perceptions and attitudes can lead to exclusion, mistreatment, and infringement of rights. This is because Arabs often perceive that persons with disabilities are immature and lack critical thinking skills. These perceptions, in turn, may facilitate discrimination, intolerance, and the use of stigmatizing labels in communication (Tausch, 2016). However, this should be noted as a historical phenomenon in which society misunderstands the causes of disability, producing doubts and misunderstandings about persons with disabilities. This is unlike the present day, in which the causes of disabilities are better known, affording greater understanding of and empathy for persons with disabilities. Alofi et al. (2019) note that some people in Arab societies may have negative associations with disabilities because non-disabled individuals in the family or society are expected to provide special care to people with disabilities.

According to Aldakhil (2022), historically in Arab culture, there was widespread stigma associated with disability, marked by perceptions of inferiority, neglect, contempt, and, in some cases, abuse. This began to change in recent decades when Arab society came to hold more inclusive and understanding perceptions of disabilities. Tausch (2016) notes that the

Arab world's perceptions of disability changed during its modernization and the incorporation of self-governance. As the country develops economically, socially and politically, there is strong concern to ensure the rights of persons with disabilities as part of fulfilling Vision 2030. This also means building infrastructure that supports people with disabilities and scholars and activists have argued that this can be facilitated by advancing a social model of disability that emphasizes the need for a change in the social and environmental structures to support persons with disabilities (Goering, 2015). Arab nations began to re-examine disabilities within the framework of social justice, which motivated scientific understanding of disability in relation to circumstances and social factors that unfairly impact people with disabilities (Tausch, 2016). For instance, some people are born with a disability, whereas others develop disabilities following environmental accidents or illnesses. Moreover, and more recently, Arab countries better appreciate the need to integrate people with disabilities and people without disabilities, thereby respecting the human rights of all people (Tausch, 2016).

Al-Naami et al. (2010) address issues of disabilities in Saudi Arabia, noting that despite the efforts and commitment to broad inclusion policies such as the Salamanca Statement, inclusion of persons with disabilities in Saudi Arabia has not been executed fully. This challenge is produced by several sociocultural, structural, and relational obstacles (Al-Naami et al., 2010). According to Al-Naami et al., the structural and relational obstacles include social and cultural aspects of shame associated with disabilities that affect inclusion and produce impediments that impact the experiences of persons with disabilities and those close to them. Therefore, exclusion is a central feature for some people with disabilities because of the effects of social-cultural norms. This can produce integration barriers that affect communication between people with and without disabilities (Al-Naami et al., 2010).

Alofi et al. (2019) focused on the hearing-impaired community in Saudi Arabia, including their experiences growing up in families with individuals without hearing impairment. The variables investigated included location of residence and educational background. The results highlighted the significance of communication in affecting both positive and negative experiences for individuals with hearing impairment. A key finding was that individuals with hearing impairment in Saudi Arabia face specific challenges, including language deprivation, low-quality education, and poor work settings and conditions (Alofi et al., 2019).

Aldakhil (2022) investigated associations between teachers' attitudes and their communications and interactions with students with disabilities in Saudi Arabia, with a focus on teachers' interpretations of Islamic teachings. The findings indicated potential contradictions between teachers' understanding of disabilities and Islamic teachings. The same study also suggested that some interpretations of Islamic teachings may facilitate affirmative and supportive perceptions of disability that challenge non-supportive Islamic interpretations of disability presented by some teachers (Aldakhil, 2022). Aldakhil contends that Islam recognizes disabilities as morally neutral and that individuals are built differently, and this should not affect interactions with and integration into society. Moreover, Aldakhil argues that Islam acknowledges that people have differently-abled bodies, and this should not be regarded as a punishment or a blessing but instead reflects normal human diversity (Aldakhil, 2022).

Wahabi et al. (2011) found that Saudi Arabian healthcare providers' negative attitudes about and perceptions of disabilities can produce barriers to rehabilitation and integration. According to these researchers, positive attitudes and perceptions support the successful integration of people with disabilities. Similar to other nations, cultural values, customary beliefs, educational background, and religious commitments influence attitudes toward people with disabilities in Saudi Arabia (Wahabi et al., 2011). The authors conclude that Saudi Arabian healthcare providers today have generally positive attitudes towards people with physical and mental disabilities. Thus, religion, cultural beliefs, and educational background may have only small and variable effects on the attitudes and perceptions of healthcare providers with regard to people with disabilities.

Almarwani et al. (2020) also investigated healthcare professionals' conduct and attitude regarding persons with disabilities, particularly those who have gained disability through external factors such as accidents. The researchers note that Saudi Arabia has suffered from high morbidity and mortality rates because of accidents, which today represent the second-leading cause of death nationally (Almarwani et al., 2020). For instance, over one million car accidents annually in Saudi Arabia cause death or severe trauma. The researchers also note that Saudi Arabian healthcare providers generally have positive attitudes towards people with disabilities.

Madhesh (2022) contends that awareness of disabilities is necessary to create equity for people with disabilities in Saudi Arabian society. The study focused on Saudi Arabian university students and found that there is a need to increase awareness of disabilities among university students through sensitization and media campaigns. Moreover, there is a need to provide programs and courses about disabilities in institutions of higher learning. The same study also reported differences in awareness and attitudes by gender, university type, and university major (Madhesh, 2022). In another study, Alhumaid (2023) focused on primary-school-aged children in Saudi Arabia to determine their attitudes toward and awareness of students with disabilities. The study found that 10-year-old responders reported more positive attitudes towards people with disabilities than children in older age cohorts. Also, students attending public schools reported more positive attitudes

towards their peers with disabilities in physical education compared to those attending private schools (Alhumaid, 2023). This tended to improve the integration and inclusion of students with disabilities through regular communication. These findings highlight the need for inclusive educational programs.

Another socialization agent that may influence perceptions and attitudes towards people with disabilities and which can also affect communication is the media. Alsewaiah (2021) contends that the media sometimes misrepresents and underrepresents individuals with disabilities. Although this is a global problem, the near invisibility of individuals with disabilities in Saudi Arabian newspapers and other media is concerning (Alsewaiah, 2021). Moreover, the existence of negative stereotypes of people with disabilities is propagated by negative frames that the media sometimes present in representations of people with disabilities. A key finding of this research was that a lack of knowledge and awareness about disability prevents journalists from accurately presenting the issues (Alsewaiah, 2021).

Religious commitments also might influence how people interact with those with disabilities. Saudi Arabia is a deeply Islamic country and adheres to the tenets of the Islamic religion. Al-Aoufi et al. (2012) reported that although Muslims share a set of beliefs and principles, attitudes towards and understanding of disability varies with the degree of a person's faith commitments well as their socio-economic status, educational background, and the local cultural context. Hammad et al. (2022) found that religious youths reported positive attitudes towards people with disabilities, suggesting a link between Islamic religiosity and positive attitudes towards people with disabilities.

Methods

The current study was conducted with adult residents of several Saudi Arabian cities. A survey was administered to secure self-reports of beliefs about and attitudes towards people with disabilities, and to investigate whether and how cultural norms can affect their attitudes, perceptions, and communication between people with and without disabilities in Saudi Arabia.

Table 1. Detailed summary of the variables

Variable	Attribute	Total
Gender	Male	40
	Female	101
	N	**141**
Age	20 years and below	20
	21 – 30 years old	15
	31 – 40 years old	30
	41 – 50 years old	30
	51 – 60 years old	32
	More than 60 years old	14
	N	**141**
Disability Status	Disabled	27
	Non-disabled	114
	N	**141**
Region	Riyadh Region	66
	Qassim Region	10
	Hail Region	5
	Madinah Region	13
	Eastern Province	10
	Najran Region	1
	Al-Bahah Region	4
	Makkah Region	11
	Tabuk Region	4
	Al-Jawf Region	2
	Jazan Region	3
	Asir Region	11
	Northern Borders Region	1
	N	**141**

Participants

In total, 141 respondents participated. The study focused on three categorical demographic variables: gender (male vs. female), disability status (disabled vs. non-disabled), and age (younger vs. older). A summary of participant demographics is presented in Table 1. The participants included more females than males; most were 30-60 years of age, and more of the participants were non-disabled than were disabled. In the case of disability status, a limitation is noted since the study intended to investigate the impact of cultural norms on perceptions and communication between people with disabilities and people without disabilities; hence, an equal representation across disability categories would have provided insightful information. Respondents comprised a convenience sample using the snowball method across Saudi Arabia and residing in large cities.

Sampling Procedure and Size

The sampling approach was influenced not only by the topic that targeted the general population (the cultural norms of disabled and non-disabled) but also the accessibility of prospective participants. For this reasons, convenience sampling was used. Sampling relied on digital recruitment through text, email, and social media contacts (an initial message was sent asking if they are willing to participate in a survey; this was sent to random contacts). Convenience sampling does introduce one of the limitations of the study because it makes it difficult to target many people due to reliance on those who are available and accessible. As a results, there is a smaller catchment population which can increase the risk of false-negative results as well as a restriction on generalizability to the broader population. In the case of people with disabilities, a third party online recruitment platform called MyParticipants was used. Because the general population was targeted with the main restriction being that participants were 18 years and older, both genders, different age groups, and people with and without disability were considered. The restriction of 18 years and older was implemented given the assumption that they had appropriate experience with the outside world in terms of accessibility of services (i.e. they have national identity cards and legal status as adults).

Finding persons with disability was challenging for the third-party platform because it was later discovered that unless specifically designed for inclusion, a platform can have shortcomings in engaging and recruiting marginalized groups, particularly those with disabilities. This is because few persons with disabilities apply to participate in the platforms, and this varies with the type of disability. The main qualification for participation in the study was that the persons with disabilities be able to read and write, meaning that those with most physical disabilities (e.g., limb amputation, muscular dystrophy), neurological disabilities (e.g., epilepsy), multiple and developmental disabilities (e.g., Down syndrome, autism) could participate. However, those with complete sensory loss to process and interpret sensory information (e.g., blindness, deafness) could not qualify since information was collected digitally. The research team could not identify a specialized recruitment platform that engages People with disabilities in Saudi Arabia. Thus, there was still underrepresentation of people with disabilities since only 27 who met the predetermined qualifications were recruited and completed the survey. Researchers managed to identify 114 participants to successfully complete the survey with the full sample reaching a total of 141.

During the recruitment process, participants were informed of the purpose of the study (see Appendix 1), and were requested to respond honestly. Their informed consent was secured and confidentiality assured. The survey was conducted across two days (21 and 22 June 2024). Nominal monetary compensation was provided for a completed survey.

Data Collection Tool

A structured questionnaire (Likert scale type) survey was used to collect data. The survey used is the Disability Attitude and Inclusion Survey, which collects information about knowledge of disabilities and perceptions of disabilities and people with disabilitites (see Appendix 2). This survey was used because it contained the cultural norms aspect that would make measuring and understanding people's attitudes and perceptions possible. Moreover, the survey was an existing, established disability awareness scale sourced from a non-governmental organization (EU, 2014). It was altered slightly to consider certain religious aspects and specific contexts. There was replacing of generic terms for specific names, randomization of questions, and substituting comparable terms for easy understanding. For religious context, the religious statement "Disability is a disease from God" was included. There was a possibility for bias due to social desirability given that the contacts were known to the researchers and, hence, participants might provide responses that are considered "favorable" and not those considered "bad" to align with perceived social norms. This was addressed by guaranteeing anonymity, and using indirect questioning to depersonalize the prompt. The final scale evidenced good reliability (Cronbach's alpha = .80).

Convenience sampling tends to produce lower internal and external validity because of selection/response bias and its non-random nature as well as a sampling bias and a lack representative baseline respectively. However, to minimize loss in external validity (which is the main limitation), the researchers diversified data collection by obtaining data from different locations in the country, using a third-party to collect data from persons with disabilities, collecting data from different variables, and using descriptive analysis tailored to non-probability samples to avoid overstating generalization. Internal validity was secured by implementing strict inclusion and exclusion criteria whereby instead of including anyone who was available at a base level, researchers screened for attributes that might be expected to threaten the results.

Reliability was addressed by ensuring that the text and data recorded were correct, that numerical values fell within a specified minimum and maximum range, and that the data were free of duplicates across different fields and tables. Additionally, data were checked for accuracy and completeness at its source to prevent invalid data from entering the system. Microsoft Excel was used to set up and conduct a validation check. Since there were sample size differences for values of gender, age, and disability status, generalizability was increased by correcting the imbalances during statistical analysis, and through statistical weighting by propensity score matching to afford greater weight to under-represented groups in the data.

Ethical Considerations

The study considered different ethical practices at different stages of the study. For instance, before collecting data, recruited individuals were informed of the study's purpose and benefits before agreeing to participate. An informed consent was secured, and they were alerted that they could withdraw at any time without penalty. No participant was coerced or manipulated to participate in the study. The participants were assured of their privacy and confidentiality. Lastly, the transparency and integrity of the data were secured by reporting all data accurately and without fabrication or falsification. The study was approved by Scientific Research Ethics Committee at University of XXX (Application Number: XX-REC-238, date of approval: 03/04/2024).

Results

The first section of the survey secured information about participants' knowledge and awareness of disabilities. Table 2 provides a summary of these findings. This information is important because it may be useful for explaining the results of inferential analyses (reported below).

Based on the information above, there is limited first-hand knowledge about disabilities. For instance, few participants reported that they have family members with disabilities, but most participants have seen or have known someone with a disability. Most respondents do not think disabilities are contagious. In terms of awareness, responses to the first statement suggests a high level of awareness (reading or hearing) about disabilities at the societal level, which may influence how people perceive persons with disabilities. One limitation of this survey is that the type of disability was not specified.

Descriptive Statistics

Table 3 displays results of descriptive analyses of items from the survey. One point to note is that, apart from Q1, which had a strong response of 4.18 (agreement with the item), the other items indicated moderate response strength, about 3.50. The means, mode, median, and standard deviation were used for the Likert-scale responses to identify the central tendency of the sample so that the researchers could assess the direction and patterns of responses.

Table 2. Summary of findings of Section A of the survey

Statement	Yes	No	Not sure
A Have you ever heard or read about disability?	19	95	27
B Is there a name for a person with a disability in your language?	23	95	23
C Have you ever seen anyone with a disability?	23	83	35
D Do you have anyone with a disability among your relatives?	19	90	32
E Do you have any idea of what causes disability?	26	82	33
F Does disability run in families?	25	88	28
G Do you think disability is contagious?	12	91	38

Table 3. Descriptive information for key survey items

		Mean	Mode	Median	Standard Deviation	Variance
Q1	Disability is a disease from God.	4.18	4	4	0.68	0.47
Q2	You always feel sorry when seeing someone with a disability.	3.54	3	3	0.87	0.76
Q3	You are afraid of disabled people	3.15	2	3	1.33	1.77
Q4	Families having disabled people should completely hide them.	3.36	3	3	1.24	1.54
Q5	Disabled persons should associate with the other members of the community.	3.38	5	3	1.34	1.81
Q6	Disabled children should not attend school.	3.54	3	3	1.18	1.39

Inferential Statistics

Table 4 reports the results of *t*-tests; the differences between two means for each item in the survey and according to the three demographic categorical variables (gender: male, female; age: younger, older; disability status: disabled, non-disabled), with alpha set to .05 (two-tailed). The tables below show multiple comparisons suggesting that problems could occur when performing many statistical tests on the same datasets. There were also instances where multiple t-tests were conducted simultaneously with each test carrying an inherent risk of Type 1 error. This was resolved by using ANOVA whereby, instead of conducting multiple t-tests to compare three or more means, ANOVA was conducted first.

Summary

The results across the six items and three demographic variables indicate less support for the null hypothesis, and greater support for the alternative hypothesis. The null hypothesis states that "cultural norms do not impact perceptions and communication between people with and without disabilities." In contrast, the alternative hypothesis states that "cultural norms impact perceptions and communication between people with and without disabilities." These results, however, vary depending on the items concerning culture, perception, and communication. For instance, item one addresses religion (disability is a disease from God), a cultural variable. For all three variables (gender, age, and disability status), the null hypothesis could not be rejected. Yet, for item three, which deals with social perception (fear of disabled people), all three variables were significant, and the null hypothesis was rejected in favor of the alternative. Item five links to communication as it considers whether people with disabilities should be included/integrated in the community, and here, the results for gender and disability status are consistent with the alternative hypothesis. In contrast, for age, the null hypothesis cannot be rejected. The interpretation of the results thus varies across items and demographic variables, especially age. However, gender and disability status produced mean differences that were significant, indicating rejection of the null hypothesis for most of the items.

Discussion

The study aim was to investigate the impact of cultural norms on perceptions and communication between persons with and without disabilities. Six items measuring perception and communication were considered, some of which are linked to culture, i.e. religion (i.e. disability is a disease from God) and communication (i.e. inclusion of people with disabilities in the community and schools).

Culture

Three variables reflecting elements of the society (gender, age, and disability status) were investigated with regard to responses on six items that measure culture, perception, and communication in Saudi Arabia. For all three variables, there was some indication that cultural norms impact perceptions and communication between people with disabilities and those without; however, this varies across the different items. For instance, on the item of culture, represented by religion (i.e. disability is a disease from God), all three variables (gender, age, and disability status) produced results that were consistent with the null hypothesis that culture does not impact perceptions and communication between people with and without disabilities. This suggests that men, women, members of older and younger groups, and both the non-disabled and disabled believe that disability is a disease from God. This could be explained by the strong Islamic foundation of Saudi Arabia to

Table 4. Inferential results for item-level analyses

Q1. Disability is a disease from God	Degree of Freedom	t- Value	p-Value	Average of Difference ($\bar{x}$ d)	SD of Difference (Sd)
Gender Males vs. Females N = 30	29	-0.420	0.677	-0.06667	0.8683
Age Young (40 years and below) vs. Old (41 years and above) N= 30	29	0	1	0	0.6948
Disability Status Non-Disabled vs. Disabled N =25	24	-1.095	0.284	0.2	0.9129
Q2. You always feel sorry when seeing someone with a disability.	Degree of Freedom	t- Value	p-Value	Average of Difference ($\bar{x}$ d)	SD of Difference (Sd)
Gender Males vs. Females N = 30	29	-3.071	0.0046	-0.6	0.07
Age Young (40 years and below) vs. Old (41 years and above) N= 30	29	-1.191	0.2431	0.2333	1.0726
Disability Status Non-Disabled vs. Disabled N = 25	24	-3.977	0.0005	0.96	1.2069
Q3. You are afraid of disabled people	Degree of Freedom	t- Value	p-Value	Average of Difference ($\bar{x}$ d)	SD of Difference (Sd)
Gender Males vs. Females N = 30	29	-2.854	0.007	-0.8333	1.5992
Age Young (40 years and below) vs. Old (41 years and above) N= 30	29	-2.420	0.022	0.7333	1.6595
Disability Status Non-Disabled vs. Disabled N =25	24	-4.645	0.0001	1.52	1.6361
Q4. Families having disabled people should completely hide them.	Degree of Freedom	t- Value	p-Value	Average of Difference ($\bar{x}$ d)	SD of Difference (Sd)
Gender Males vs. Females N = 30	29	-3.433	0.0018	-0.9667	1.5421
Age Young (40 years and below) vs. Old (41 years and above) N= 30	29	-1.432	0.1625	0.3667	1.4016
Disability Status Non-Disabled vs. Disabled	24	-4.820	0.0000	-1.36	1.4107
Q5. Disabled persons should associate with the other members of the community.	Degree of Freedom	t- Value	p-Value	Average of Difference ($\bar{x}$ d)	SD of Difference (Sd)
Gender Males vs. Females N = 30	29	-3.127	0.0039	-1.0333	1.8096
Age Young (40 years and below) vs. Old (41 years and above) N= 30	29	-0.351	0.728	0.1333	2.08

(continued)

Table 4. (continued)

Q6. Disabled children should not attend school					
	Degree of Freedom	t- Value	p-Value	Average of Difference ($\bar{x}$ d)	SD of Difference (Sd)
Disability Status Non-Disabled vs. Disabled N =25	24	-2.794	0.0100	-1.16	2.0753
Q6. Disabled children should not attend school					
	Degree of Freedom	t- Value	p-Value	Average of Difference ($\bar{x}$ d)	SD of Difference (Sd)
Gender Males vs. Females N = 30	29	-1.663	0.1070	-0.5333	1.7564
Age Young (40 years and below) vs. Old (41 years and above) N= 30	29	-1.266	0.2155	0.3667	1.5862
Disability Status Non-Disabled vs. Disabled	24	-2.626	0.0147	0.84	1.599

which people of diverse backgrounds, including the three variables – age, gender, and disability status, subscribe. The Quran (9:51) states, "Nothing will happen to us except what Allah has decreed for us," a statement that suggests that Allah predestines everything in life. He has the ultimate authority and full control of people's affairs (Bengtsson, 2018). Perhaps the phrasing of the item on religion, "disability is a disease from God", is specifically on the negative side. Still, the Islamic faith requires people to treat those with a disability with respect, empathy, and care (Bazna & Hatab, 2005). But as far as who allows disability, there is no argument from most people in Saudi Arabia that it is divinely instigated.

Perceptions

On the item assessing perceptions (i.e. fear of disabled people), all three variables produced results indicating rejection of the null hypothesis and in favor of the alternative hypothesis. Men, women, and people of different age groups and disability status report that cultural norms impact perceptions. One way of addressing the results for this item is to ask where the fear arises from. The first section measuring people's understanding and knowledge of disabilities showed that they had little first-hand information. This is due to several reasons, such as not having close family members or relatives with disabilities or not interacting with them much.

In contrast to religion, where the issue of disability can be explained from a religious text that people adhere to, the issue of perception addresses personal experience and interaction. According to Liu et al. (2018), if one has minimal or no interaction with people with disabilities, the tendency is to rely on stereotypes that are often negative. Here, the stereotypes are part of the cultural knowledge that shapes the views of others (Liu et al., 2018). Therefore, culture shapes perceptions; if the stereotype is positive, then the perceptions will be positive, and if the stereotype is negative, then the perceptions will be negative (Liu et al., 2018).

Communication

Item five links to communication as it considers whether people with disabilities should be included or integrated in the community. Here, the results for gender and disability status are consistent with the alternative hypothesis that culture does impact perceptions and communication between people with and without disabilities. For gender, this would most likely be a given due to the nature of the variable (i.e. it contains both the young and old as well as disabled and non-disabled). Therefore, the focus would be on disability status. A possible reason for disability status being associated with the reported impact of culture on communication is that people with disabilities are still today treated differently from people without disabilities in different societal domains such as education, health, and workplaces.

Despite anti-discrimination policies applicable to people with disabilities in Saudi Arabia (Unified National Platform, 2021), those with disabilities still experience discrimination. Kadi (2018) found that negative perceptions and attitudes

towards people with disabilities in Saudi Arabia resulted in discrimination against them, creating challenges for them and preventing them from participating in society equally. Despite efforts to include students with disabilities in general classrooms in Saudi Arabia, many still learn in special and exclusive classrooms dedicated to those with disabilities (Alhumaid et al., 2023).

The findings have implications for practice, policy, advocacy, and future research. Foremost, the relevant policy-making bodies in Saudi Arabia can use this information to campaign to create awareness for persons with disabilities. The language used matters, as in the case of using dignified language, to shift negative attitudes associated with disabilities in the country. Such campaigns may take time and also requiring a monitoring body to measure the progress in economic, political, and social spheres. One area that awareness campaigns can be implemented in is the school sector, by building infrastructure that support students with disabilities. Rather than isolating and creating special schools for students with disabilities, the government can integrate them within ordinary formal schools. Early interactions with persons with disabilities can have effective outcomes since it has been shown that meaningful direct contact with persons with disabilities can have long-term effects on people's attitudes and behaviors towards them (Alhumaid et al., 2023; Bengtsson, 2018). Therefore, there is a need to improve the social and environmental factors to support persons with disabilities because they too can perform as their non-disabled counterparts. Future research can focus on the effects of language use on promoting a positive cultural change towards persons with disabilities.

Conclusion and Limitations

In summary, cultural norms appear to have an impact on perceptions and communication between people with disabilities and those without disabilities in Saudi Arabia. As suggested by the current findings, religious beliefs and stereotypes may play important roles in perception and communication. This can be deduced as effects of culture on perceptions and communication between people with and without disabilities. Although religious beliefs and commitments (i.e. Islamic doctrines) provide an explanation for disability (i.e. pre-ordained by Allah) and even suggest respect for those with disabilities, this does not guarantee respect and inclusion among the majority of the population. Discrimination is due, in part, to negative perceptions caused by stereotypes that persist despite anti-discrimination laws applicable to people with disabilities in Saudi Arabia. Such stereotypes may continue to influence whether and how people with disabilities are included in schools and workplaces.

The study has several limitations in terms of population size and emphasis. A larger sample size would have provided more compelling results about the population. Perhaps a focus on any specific type of disability would have yielded different results. Also, the study results may reflect some level of subjective bias on the part of participants. Also, greater equal numbers of respondents could have provided different results. Therefore, for example, it is difficult to determine if the older and younger population have the same perception, attitudes, and thoughts towards people living with disabilities. The reason is that society is changing as the world becomes more globalized, and a global mainstream culture influences the younger population.

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Supplemental Material

Supplemental material for this article is available online.

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