

PERSPECTIVES OF MALE SPEECH THERAPISTS REGARDING THE GENDER DISPROPORTIONALITY IN THE PROFESSION OF SPEECH AND LANGUAGE PATHOLOGY

Original Research

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ABSTRACT

Background: Gender imbalance remains a defining feature of the speech and language pathology (SLP) profession globally, with men significantly underrepresented. Despite increasing awareness, the profession continues to be perceived as female-dominated, influenced by societal norms, cultural expectations, and limited exposure among men. In Pakistan, where gender roles are more traditionally defined, understanding male professionals' perspectives on their participation and challenges within SLP is vital to inform policy and educational reforms.

Objective: The study aimed to explore the perspectives and lived experiences of male speech-language therapists in Pakistan regarding gender disproportionality within the profession.

Methods: A descriptive qualitative design was employed over six months (August 2023–January 2024). Fifteen male speech-language therapists were recruited through purposive sampling from various clinical and academic institutions across Pakistan. Participants holding BS, MS, or postgraduate diplomas in SLP were interviewed using a pre-validated, semi-structured guide. Data were collected through face-to-face and online interviews conducted in Urdu, audio-recorded with consent, transcribed verbatim, and translated into English. Thematic analysis following Braun and Clarke's six-step framework was used to identify emerging patterns and sub-themes. Data saturation was achieved after the fifteenth interview.

Results: Analysis revealed four major themes with multiple sub-themes. The first theme identified barriers to male participation, including lack of awareness (reported by 10 of 15 participants), low wages, societal stereotypes, and absence of male role models. The second theme described positive male attributes such as authority, confidence, and communication skills. The third theme explained the predominance of females due to their patience, nurturing traits, and higher enrollment in medical fields. The final theme presented strategies for improvement, emphasizing awareness campaigns (supported by 11 participants), increased job opportunities, and mentorship initiatives.

Conclusion: The study concluded that the persistent gender disparity in SLP stems from limited awareness, cultural stereotypes, and inadequate institutional support for men. Promoting male inclusion through awareness programs, educational outreach, and gender-inclusive policies could enhance workforce diversity and contribute to more balanced and culturally sensitive service delivery.

Keywords: Awareness, Gender disparity, Male participation, Perceptions, Professional barriers, Speech-language pathology, Workforce diversity.

INTRODUCTION

Gender segregation continues to characterize the professions of audiology and speech-language pathology (SLP), where men remain markedly underrepresented on a global scale (1,2). Across most clinical, educational, and rehabilitative settings, male practitioners form only a small minority, reflecting deep-rooted societal expectations that influence career preferences and occupational identity (3,4). Despite serving clients of all genders, the SLP workforce is overwhelmingly female—over 90% of practitioners worldwide are women—creating an evident imbalance between service providers and clients, particularly in disorders that disproportionately affect males such as stuttering, childhood voice disorders, autism spectrum disorder, and traumatic brain injury (5–8). A growing body of research has explored factors discouraging men from entering SLP, identifying limited career awareness, modest income potential, restricted advancement opportunities, and entrenched perceptions of SLP as a female-dominated or “nurturing” profession as key barriers (9,10). The portrayal of SLP professionals in academic and media representations—typically female—further reinforces this stereotype, leaving men feeling isolated and underrepresented (10). Recognizing this imbalance, the American Speech-Language-Hearing Association (ASHA) in the 1990s emphasized the need for workforce diversity that reflects societal and cultural demographics (11). In response, ASHA introduced initiatives such as targeted awareness campaigns, specialized career websites, mentoring networks linking novice and experienced practitioners, and outreach programs directed at high-school counselors specializing in science and health disciplines (12). The inclusion of male practitioners has been shown to bring added value to healthcare and educational environments by offering diverse perspectives, improving engagement among male clients, and serving as relatable role models, particularly in culturally conservative societies where gender dynamics affect patient comfort and participation (12,13).

However, empirical findings remain inconclusive regarding whether practitioner gender directly influences therapeutic outcomes in SLP and related caring professions (14). Persistent gender stereotypes continue to frame women as empathetic caregivers and men as disciplinarians or authority figures, leading male SLPs to gravitate toward adult-focused or technical domains rather than pediatric practice (15,16). International research—primarily from the United States, the United Kingdom, and Australia—consistently highlights that male SLPs face professional challenges such as gender stereotyping, limited mentorship opportunities, concerns regarding remuneration, and professional isolation due to their minority status (16–18). These barriers collectively impact the recruitment, job satisfaction, and long-term retention of male professionals, thereby perpetuating gender disparity and constraining diversity of perspectives in therapeutic practice. Greater gender balance within the profession could foster inclusivity, enhance culturally responsive care, and provide relatable role models for clients of different backgrounds. Despite these global efforts, there is a notable lack of research exploring the experiences and perceptions of male SLPs in Pakistan. Understanding their challenges, motivations, and recommendations is essential to inform targeted recruitment strategies, policy development, and educational reforms that promote gender diversity in the local SLP workforce. This study aims to explore the lived experiences, challenges, and perceptions of male speech-language pathologists in Pakistan to identify factors influencing their career trajectories and propose strategies to encourage greater male participation in the field.

METHODS

This descriptive qualitative study was conducted over a period of six months, from August 2023 to January 2024, with the objective of exploring the perceptions and lived experiences of male speech-language pathologists working in Pakistan. The qualitative design was chosen to allow in-depth understanding of participants’ perspectives, beliefs, and contextual realities within their professional environments. Participants were recruited using purposive sampling from diverse clinical, rehabilitative, and academic settings across the country. Inclusion criteria consisted of male speech-language pathologists holding at least a BS-SLP, MS-SLP degree, or a postgraduate diploma in speech-language pathology, currently practicing in Pakistan. Male undergraduate students and graduate student clinicians were excluded to ensure that only qualified practitioners with professional experience were represented. Recruitment continued until data saturation was achieved, when no new themes or insights emerged from subsequent interviews (19). Potential participants were contacted through email and telephone invitations, and those who agreed to participate were provided with comprehensive information about the study’s objectives, procedures, and ethical safeguards. Written informed consent was obtained prior to each interview. Data collection involved semi-structured, in-depth interviews conducted either face-to-face or online, depending

on participants' preferences and geographical accessibility. The interviews were conducted in Urdu using a pre-validated semi-structured interview guide. This guide was developed after a detailed review of relevant literature and refined through expert validation to ensure content relevance and cultural appropriateness. It comprised open-ended questions and probing prompts designed to elicit detailed reflections on participants' experiences, challenges, and perceptions related to gender representation in the speech-language pathology profession. A pilot interview was conducted beforehand to confirm clarity, sequencing, and feasibility of the guide.

Each interview was conducted in a private and distraction-free setting, lasting approximately 45 to 60 minutes. Participants' permission for audio recording was obtained, and concurrent field notes were maintained to capture non-verbal expressions, contextual nuances, and interviewer observations. All interviews were audio-recorded, transcribed verbatim, and translated into English where required. The translation process followed a forward-backward approach to ensure linguistic and conceptual accuracy. Each transcript was verified against the original audio to maintain fidelity. Confidentiality and anonymity were strictly upheld by assigning alphanumeric codes instead of participant names, and all identifiable information was removed from transcripts and reports. Data analysis was carried out through Braun and Clarke's six-step framework for thematic analysis, ensuring methodological rigor and transparency. The steps involved (1) repeated reading of the transcripts for data familiarization, (2) generation of initial codes to identify meaningful units, (3) organization of codes into categories to search for emerging patterns, (4) review and refinement of potential themes, (5) clear definition and naming of themes and subthemes, and (6) synthesis of findings into a coherent narrative. Themes and subthemes were color-coded to aid pattern recognition and thematic consistency. Representative participant quotations were integrated into the Results section to substantiate interpretations and enhance credibility. The trustworthiness of the data was ensured through methodological triangulation, reflexivity, and member checking, allowing participants to verify the accuracy of interpretations before final analysis. Ethical approval for the study was granted by the institutional ethics review committee. Participants were fully informed about their voluntary participation, confidentiality rights, and the freedom to withdraw at any point without any consequences. All consent procedures complied with institutional and international ethical research standards.

RESULTS

The study included a total of fifteen male participants, all qualified speech-language pathologists currently practicing in Pakistan. The demographic profile indicated that the majority of participants ($n=8$) held a master's degree in speech-language pathology, followed by five with a bachelor's degree and two with a postgraduate diploma. Most participants ($n=11$) had between one and five years of clinical experience, two had five to ten years, and one had more than ten years of experience. Regarding their work environment, twelve participants were employed in clinical settings, two in academic institutions, and one participant was engaged in both clinical and academic practice. The qualitative analysis revealed four major themes and associated subthemes emerging from participant narratives.

The first theme highlighted the **obstacles faced by men when entering the speech-language pathology field**. The most commonly reported challenges included insufficient awareness about the profession and its scope, as reported by nine participants, and the misconception that speech therapy is limited to child-centered services, mentioned by seven participants. Additional subthemes included the perception of an absence of distinguishing personality traits suited to the profession ($n=8$) and a prevailing "obsolete mentality" among men that discourages participation in female-dominated professions ($n=10$). Economic factors such as low wages ($n=2$), limited job opportunities in the public sector ($n=2$), and perceived societal prejudice ($n=1$) further influenced career choices. Other subthemes described a surge in the female population leading to gender imbalance ($n=2$), restricted educational opportunities ($n=2$), and limited support and encouragement for men in workplaces dominated by women ($n=1$). Several participants also viewed speech therapy as a strenuous profession requiring continuous client engagement ($n=2$), and others cited a scarcity of male role models ($n=3,12$) and majority institutional preference for women ($n=6$). The second theme focused on the **characteristics of men that may positively contribute to speech-language pathology practice**. Twelve participants emphasized the authoritative nature of men, which can be advantageous in managing challenging or hyperactive clients. Two participants noted that the deeper voice quality of men benefits clients with hearing impairments. Courage and strong willpower ($n=3$) were also highlighted as advantageous in managing critical clinical cases such as tracheotomy and dysphagia. Transparent interpersonal communication ($n=1$), ease of access for home visits ($n=4$), and better handling of adult clients and administrative matters ($n=2$) were additional subthemes. One participant remarked that men, like women, possess compassionate emotions that enable them to work effectively with children.

The third theme explored the **high representation of women in the field**. Participants attributed this to several sociocultural and educational factors, including an increasing interest among women in medical and allied health professions ($n=4$), growing

empowerment and self-esteem among females (n=3), and their higher tolerance and calmness when working with children (n=4). Other contributing factors included improved access and opportunities for women (n=2), demographic overrepresentation of females in the population (n=3), and the perception of SLP as a safe and respectable profession for women (n=1). The fourth theme identified **strategies to encourage more male participation in speech-language pathology**. The most supported subtheme was the need to raise awareness about the profession among men (n=9). Participants also emphasized the importance of shifting traditional mindsets and thinking patterns (n=1), creating more job opportunities (n=3), and expanding public educational institutions offering BS-SLP programs (n=1). Other recommendations included recognizing and supporting male practitioners (n=1), eradicating gender discrimination (n=1), highlighting talent irrespective of gender (n=1), and establishing a minority quota system for men similar to previous initiatives for women (n=1). Collectively, the results underscored the influence of societal norms, educational accessibility, and occupational stereotypes in shaping gender disparity within the speech-language pathology profession in Pakistan. Participants demonstrated a shared perception that structural support, policy-level inclusion, and enhanced public awareness could play crucial roles in improving gender diversity and professional equity.

Table 1: Demographic characteristics of the sample population

		No of Participants (n)
Education	BS	5
	MS	8
	PGD	2
Experience	1-5 years	11
	5-10	2
	10 +years	1
Work setting	Clinical	12
	Academic	2
	Clinical +Academic	1

Table 2: Theme 1: Obstacles to Men's Entry into Certain Fields

S.no	Sub theme	QOUTES
1.	Insufficient awareness in the sector	لوگوں کو اس بارے میں awareness نہیں ہے (9)
2.	Child centered services	یہاں SLP کو بچوں کے ساتھ زیادہ کام کرنا پڑتا ہے تو males prefer نہیں کرتے ہیں۔ (7)
3.	Absence of distinguishing personality traits in men	بچوں کے ساتھ مرد جب کام کرتا ہے تو شخصیت dominant نہیں ہوتی۔ (8)
4.	Men's obsolete mentality	ہیں کرتے نہیں پسند یہ مرد جو head اور ہو زیادہ تعداد کی خواتین جہاں (10)
5.	Challenges of low wages.	اتنا اچھا paid نہیں کرتے ہیں اور خواتین کے لیے تھوڑی سی بھی 30 یا 40 ہزار بونس لگتا ہے اگر وہ فیملی کو support کرنے کے لیے آ رہی ہیں (2)

S.no	Sub theme	QOUTES
6.	lack of job opportunities in the field	مشکل بہت ملنا اور بے ملتی نہیں government jobs میں fields کے طرح اس mostly تو بے (2)
7.	societal Prejudice	کہ آپ کا تعلق ایسے field سے ہے جس میں خواتین زیادہ ہیں تو آپکا مذاق اڑایا جاتا ہے۔" engineering یا forces کا جن بے جاتا کیا prefer انکو تو بے ہوتی بات کی رشتے جب "ہو۔ سے" (1)
8.	Surge in the growth rate of female population	خواتین کی شرح پیدائش زیادہ ہیں اور population کے خوالیے سے دیکھا جائے تو وہ majority میں ہیں اس لئے وہ سیٹوں پر بھی زیادہ ہیں (2)
9.	Restricted access to educational opportunities	اسپیچ تھراپی بہت کم ادارے پیش کر رہے ہیں (2)
10.	Men with limited education	زیادہ تر مرد تعلیم سے آراستہ نہیں ہیں اور نہ ہی شوق رکھتے ہیں (1)
11.	Men lacking support and encouragement.	یہ کہ ڈپارٹمنٹ یا section میں یہ کہ خواتین کا قبضہ ہوتا ہے، ان کو زیادہ lift ملتی ہے اور لڑکوں کو encourage نہیں کی جاتی ہے (1)
12.	A strenuous/laborious profession	مردوں کا یہ خیال ہے کہ ہم وہ result نہیں دے سکتے، کیونکہ کام بہت مشکل ہے۔ (2)
13.	Scarcity of exemplary experts in the field.	model نہ ہو جس کو دیکھتے جانیں تو شاید آپ کا رجحان تھوڑا کم ہو جاتا آپ کا کوئی role بے پھر آپ کو وہ option نظر نہیں آتا ہے۔ (3,12)
14.	Majority backing for women	لڑکیوں کے لئے نوکری کی ممکنات زیادہ ہوتی ہیں۔ (6)

Table 3: Theme 2: Characteristics of Men That Can Benefit Speech Therapy

S.NO	Sub themes	Quotes
1.	Authoritative nature of male	اثر بہتر زیادہ اوپر کے بچوں جو ہیں ہوتی چیزیں یہ authority ، power ، اور command کی مرد ہیں ڈالتی female کرنا handle کو بچے ایسے ہو کرتا hitting وہ ہو hyperactive جانے جو ا بچہ ایسا کوئی گر بے جاتا ہو لیے مشکل کے (12)
2.	Voice quality	کی آواز کی مردوں آواز کی عورتوں پر طور عام تو بے ہوتا بچہ والا رکھنے مسئلہ کی سننے کوئی گر ا گا۔ دے جواب اچھا وہ تو ہوتی، نہیں بلند زیادہ طرح (2)
3.	Courage and boldness in willpower.	challenging situation آ جاتی ہے تو مرد جذباتی ہو کر نہیں بلکہ عملی طور پر اس سے نمٹتے کوئی ہیں (3)

S.NO	Sub themes	Quotes
4.	Transparent communication in mutual relations	interpersonal dealing جو کی ان یہ ہے ہوتی dealing کی پیسوں جیسے (1)
5.	Specialized services with adults	خواتین کرنا کنٹرول کو ان تو ہیں، ہوتے کے سال 15 یا 14 یعنی ہیں، ہوتے قریب کے بلوغت بچے کچھ ہے۔ جاتا ہو مشکل لے کے (2)
6.	Ease of access for men.	ہے ہوتا نہیں feasible لیے کے عورت مگر ہیں سکتے کر home visits مرد (4)
7.	Administrative Matters	ہیں۔ سکتے چلا سے طریقے بہتر میں ہسپتال وہ تو دیکھیں اگر کو کلینک (1)
8.	Compassionate emotions	اچھا بھی وہ تو ہیں بھی میں males طرح اسی ہے رکھی صلاحیت مادری میں female طرح جس نے اللہ ہیں سکتے کر کام (1)

Table 4: Theme 3: High Number of Women In This Sector

S.NO	SUB THEMES	QOUTES
1.	Empowerment and Self-Esteem Growth Among Women	awareness میں ان ہیں ربی آ زیادہ ذرا طرف کی self-dependency خواتین ہے ربی آ زیادہ (3)
2.	Increasing interest of Women in the Medical Sector	ہے ہوتا زیادہ طرف کی فیلڈز میڈیکل رجحان کا خواتین (4)
3.	Calmness in females	tolarance میں خواتین ہیں ہوتی زیادہ میں خواتین وہ ہیں ہوتی درکار skills جو ہے ہوتا زیادہ (4)
4.	Improved Access and Opportunities for Women in the field of SLP	زیادہ خواتین teachers ہوتی ہیں تو لڑکیوں کو ٹارگٹ کرتی ہیں،خواتین کی بڑھتی ہوئی آبادی ہے (2)
5.	Overpopulation of Women	خواتین کی بڑھتی ہوئی آبادی ہے (3)
6.	A field of good reputation for females	یہ ایک عزت دار شعبہ ہے۔ (1)

Table 5: Theme 4: Steps to Bring Men into The Field

S.NO	SUB THEMES	QOUTES
1.	Raise awareness about the SLP among men	کام میں areas کس ، ہیں کرسکتے کام ساتھ کے کس میں field اس کہ جانے دی awareness کو males کہ ہیں کرسکتے کام ساتھ کے severity کس اور ، ہیں، کرسکتے (9)
2.	Shift mindset and thinking patterns	بے ضرورت کی کرنے change کو دماغ کے ان بے ضرورت کی nurture ship کی مردوں (1)
3.	Create more job openings	government وہ آئیں، چاہے طرف اس male تاکہ کرے، پیدا opportunities کہ چاہیے بھی کو حکومت ، private ، یا semi government ہوں ادارے (3)
4.	Introduce speech therapy in public educational institutions	ہیں رہے کروا BS جو ہیں ادارے کم بہت پر سطح گورنمنٹ (1)
5.	Offer recognition and support to men	اشتہار میں مردوں کی مسائل کو مد نظر رکھیں۔ (1)
6.	Eradicate gender discrimination.	چاہیے ہونی نہیں gender biasness میں اس (1)
7.	Highlight talent irrespective of gender	جائے دی promotion اور جائیں دیے opportunity اگر پر base کی talent اور knowledge صرف (1)
8.	Establish a minority quota system	جس طرح پہلے جب females کم تھیں jobs کے education کے اندر minority qouta بنا دیا گیا تھا، اسی طرح اب males کے لئے بھی قانون بنانا چاہیے (1)

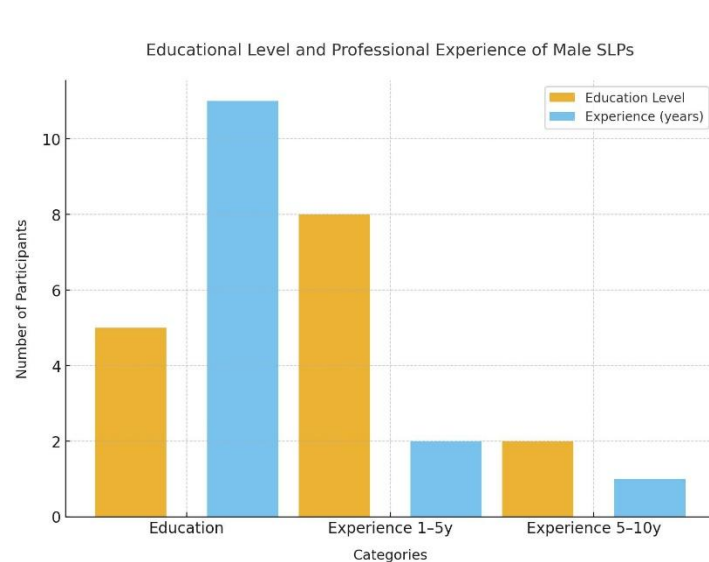


Figure 2 Educational Level and Professional Experience of Male SLPs

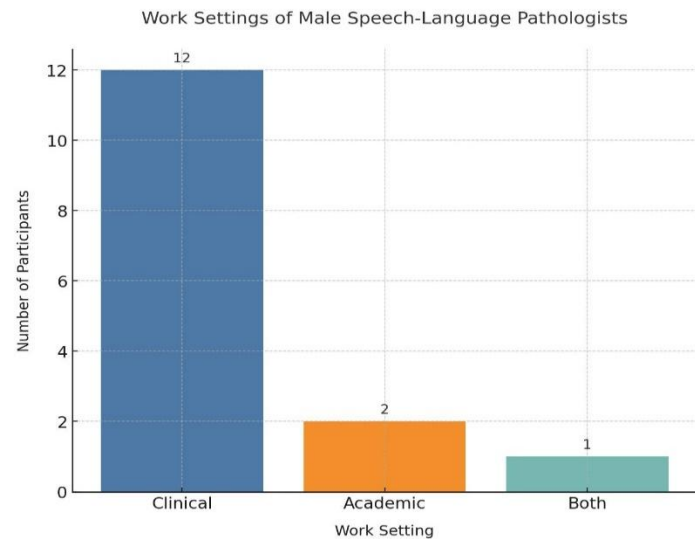


Figure 2 Work Setting of Male Speech-Language Pathologists

DISCUSSION

This qualitative exploration of male therapists' perspectives on gender disproportionality in the speech and language pathology (SLP) profession provided valuable insights into the sociocultural and structural factors shaping the underrepresentation of men in this field. The findings reflected not only occupational barriers but also broader societal expectations, role stereotypes, and institutional limitations that contribute to the gender imbalance within the profession. The first major theme underscored the challenges faced by men when entering the SLP field. A dominant sub-theme was the lack of awareness about the profession among men, reported by the majority of participants. As one therapist expressed, "نہیں ہے awareness لوگوں کو اس بارے میں۔" This perception mirrors earlier findings where limited exposure to the field was cited as a central barrier to male recruitment (2). The minimal visibility of male role models and insufficient dissemination of professional information in schools and media outlets perpetuate this unawareness. Similar findings in previous research have shown that awareness campaigns and targeted outreach significantly improve male engagement in health-related professions traditionally dominated by women (10-12). Another prevailing misconception highlighted by participants was that SLP is primarily a child-centered profession, perceived as more suitable for women. One participant articulated, "سیچ تھیراپی ان بچوں کے ساتھ کام کرتی ہے جو بول نہیں سکتے۔" Such gendered perceptions align with previous reports indicating that men tend to favor technical or adult-oriented specialties, viewing pediatric care as emotionally demanding and culturally aligned with female attributes (13). These findings reinforce the notion that career stereotyping continues to shape occupational preferences, influencing male enrollment and retention in SLP.

Economic and professional challenges also emerged as critical barriers. Participants frequently mentioned low salary structures, limited public sector positions, and restricted career growth as deterrents to male participation. These factors parallel earlier evidence suggesting that wage disparities and limited advancement opportunities discourage men from joining or sustaining careers in feminized professions (14). Furthermore, several participants discussed sociocultural factors such as entrenched patriarchal mindsets—"جہاں خواتین کی تعداد زیادہ ہے"—which reflect societal discomfort with female-led environments. This observation underscores the persistence of gendered power dynamics that influence professional identity and acceptance within therapeutic disciplines. The scarcity of male role models was another recurring concern. Participants expressed that the absence of successful male figures in academic institutions, hospitals, and professional associations reduces visibility and inspiration for young men considering SLP as a career. This corresponds with earlier observations in educational psychology and healthcare literature, where a lack of same-gender mentors has been linked to reduced motivation among minority groups. The suggestion that male professionals could serve as role models to attract younger men into the field parallels evidence from male recruitment initiatives in teaching and nursing, where visibility of successful practitioners increased male enrollment and retention (15,16). The predominance of women in SLP was another major theme. Four participants attributed this to women's increasing interest in medical and allied health sciences. One respondent stated, "خواتین کا رجحان میڈیکل فیلڈز کی طرف زیادہ ہوتا ہے۔" This trend aligns with reports from multiple countries showing that women are more likely to pursue professions that combine caregiving and communication skills, both of which are central to SLP. Participants also noted that women's nurturing attributes—patience, humility, and empathy—enhance their perceived suitability for this profession. "خواتین، ان کا polite، اور ان کی sophistication میں زیادہ ہوتی ہے۔" This cultural expectation reinforces occupational gender stereotyping, where empathy and emotional intelligence are seen as inherently feminine traits (17,18).

Despite these gendered perceptions, several participants acknowledged that men possess qualities beneficial to SLP, such as authority, confidence, and clarity in communication. These attributes were viewed as advantageous when managing hyperactive or resistant clients, as male therapists may exert stronger behavioral control. This finding broadens the understanding that gender diversity can contribute complementary strengths to clinical practice, improving inclusivity and client comfort—particularly in male-dominated or culturally conservative populations. Participants proposed practical measures to promote gender diversity in SLP. The most emphasized recommendation was to increase awareness among men about the scope, career potential, and societal value of the profession. The majority advocated for awareness seminars, workshops, and educational campaigns in schools and colleges to introduce SLP as a viable and respected career path. These suggestions echo strategies previously implemented internationally, where mentorship programs, targeted advertisements, and school-based guidance improved gender representation (19,20). Participants also recommended expanding the number of public institutions offering BS-SLP programs, establishing minority quotas for men, and eradicating gender bias in hiring and promotion processes. The implications of these findings extend beyond recruitment strategies. A more gender-balanced SLP workforce could enhance therapeutic relatability, promote diverse communication models, and provide culturally sensitive care to male clients who may feel more comfortable interacting with male therapists (21). Furthermore, equitable representation fosters professional inclusivity, enriching the field with varied experiences, communication styles, and problem-solving approaches.

This study’s strengths included its qualitative design, which allowed in-depth exploration of lived experiences, and its use of validated tools and triangulated analysis to ensure data credibility. The inclusion of participants from varied clinical and academic settings also enhanced representativeness within the national context. However, several limitations must be acknowledged. The study was conducted on a limited sample of fifteen participants, restricting the generalizability of findings. The sample was geographically constrained, reducing diversity of perspectives across different provinces and institutional environments. Moreover, while participants represented practicing professionals, the exclusion of male SLP students limited the ability to capture pre-professional perceptions. Additionally, the study did not explore patient or institutional perspectives on gender representation, which could have provided a more comprehensive understanding of the issue. Future studies could adopt mixed-method approaches incorporating both qualitative interviews and quantitative surveys to evaluate the influence of gender diversity on professional satisfaction, patient outcomes, and service delivery. It is noteworthy that the final paragraph in the original draft referred to variables such as Chronotropic Index (CI) and Heart Rate Recovery (HRR), which are unrelated to the current study’s objectives and context. These references appear misplaced and should be omitted, as they pertain to cardiovascular physiology rather than gender representation in speech-language pathology (22,23). In summary, the study revealed that societal perceptions, structural constraints, and limited institutional support collectively perpetuate male underrepresentation in the SLP profession in Pakistan. The findings emphasized that promoting awareness, eliminating gender bias, expanding educational opportunities, and showcasing male role models could be effective strategies to foster inclusivity. A more balanced workforce would not only enhance equity but also strengthen clinical practice by integrating diverse skills, perspectives, and therapeutic approaches into the field of speech-language pathology.

CONCLUSION

The findings of this study demonstrated that while heart rate recovery among young healthy adults during the three-minute step test generally reflected normal cardiovascular adaptability, the chronotropic response was found to be inadequate across participants. This suggests a potential limitation in the heart’s ability to appropriately increase its rate in response to physical exertion, highlighting the need for regular cardiovascular conditioning even among seemingly healthy individuals. These results emphasize the importance of incorporating routine fitness assessment and aerobic training into health promotion programs to enhance cardiac responsiveness and overall cardiovascular efficiency in young adults.

AUTHOR CONTRIBUTION

Author	Contribution
Muqadas Rafiq*	Substantial Contribution to study design, analysis, acquisition of Data
	Manuscript Writing
	Has given Final Approval of the version to be published
Soabah Wasim	Substantial Contribution to study design, acquisition and interpretation of Data
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