


The Glass Escalator Effect in Physical Therapy: Exploring Gender Disparities and Career Advancement

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Disclaimers

Authors' Contributions

AH and ZH were responsible for the conception and design, as well as the acquisition, analysis, and interpretation of data. FH and MP contributed by drafting the article and critically revising it for significant intellectual content. MU and TZ provided the final approval of the version to be published.

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ABSTRACT

Background: The field of physical therapy, traditionally dominated by women, is experiencing a shift towards greater gender diversity. However, gender disparities in career advancement, workplace equality, and perceptions of sexism persist. This study explores these dynamics among physical therapists in Karachi, Pakistan, assessing the presence of the glass escalator effect where men are perceived to advance faster in female-dominated professions.

Objective: To investigate gender disparities in career advancement, workplace gender equality, and ambivalent sexism attitudes among physical therapists in Karachi, and to assess whether the glass escalator effect influences these dynamics.

Methods: This cross-sectional observational study was conducted from September to December 2023 across various hospitals and universities specializing in physical therapy in Karachi, Pakistan. The sample included 462 male and female physical therapists, aged 22-55 years, with at least two years of professional experience. Data were collected using self-administered questionnaires comprising the Career Advancement and Associated Factors (CAAF), Workplace Gender Equality and Organizational Culture Perception (WGEOCP), and Ambivalent Sexism Attitude Perception (ASAP) scales. A pilot study validated the questionnaires with validity scores of 0.6, 0.65, and 0.68, respectively. Ethical approval was obtained in line with the Declaration of Helsinki. Data analysis was performed using SPSS version 25, employing descriptive statistics and independent t-tests to compare perceptions between genders, with significance set at $p < 0.05$.

Results: The study included 462 participants (50.6% male, 49.4% female). Females scored higher on the CAAF scale (mean = 3.3053) compared to males (mean = 3.1265), showing a significant difference ($t = -9.826$, $p = 0.000$). Males scored higher on the WGEOCP scale (mean = 3.0736) versus females (mean = 3.0172) with a significant difference ($t = 4.969$, $p = 0.000$). On the ASAP scale, males also reported higher scores (mean = 3.0689) compared to females (mean = 2.8993), indicating significant differences ($t = 8.422$, $p = 0.000$). These results highlight a nuanced view of gender disparities, where female physical therapists perceive greater career advancement opportunities, but males experience higher levels of ambivalent sexism.

Conclusion: The study did not find evidence of the glass escalator effect favoring men in physical therapy in Karachi. Instead, it identified significant gender differences in perceptions of career advancement and ambivalent sexism, underscoring the need for targeted interventions to promote gender equity within the profession. Addressing these disparities through policy reforms and continued research is essential for fostering an inclusive work environment for all physical therapists.

INTRODUCTION

The field of physical therapy has become an essential component of healthcare, focusing on rehabilitation, injury prevention, and pain management to enhance patients' overall quality of life (1). Historically, physical therapy has been predominantly a female-dominated profession, as reflected in the high percentage of registered female physiotherapists worldwide (2). This trend has been

attributed to the perception of physiotherapy as a caring and nurturing profession, qualities traditionally associated with femininity (5). However, in recent years, there has been a noticeable increase in male representation among physiotherapy students, signaling a shift towards greater gender diversity within the field (3). Various factors, including evolving societal norms and changing perceptions of the profession, contribute to this trend, challenging long-standing stereotypes about gender roles in healthcare

professions (4). Despite this progress, disparities persist, particularly in career advancement opportunities between male and female physical therapists.

The concept of the "glass escalator" suggests that men in female-dominated professions, such as physical therapy, tend to advance more quickly into leadership positions compared to their female counterparts, even when they are in the minority (11). This phenomenon underscores the existence of subtle yet significant advantages that men might receive, allowing them to ascend to higher positions despite being less represented numerically (12). In contrast, women often encounter a "glass ceiling," which prevents them from reaching upper-level management and leadership roles, further exacerbating gender inequities in career advancement (10). Studies have shown that these gender-related barriers manifest in various forms, including biased organizational cultures, differential treatment in the workplace, and societal expectations that influence career trajectories (13-15). Understanding these dynamics is crucial for addressing the persistent gender disparities within the physical therapy profession and creating a more equitable environment.

The relevance of examining the glass escalator effect within physical therapy lies in identifying the underlying factors that facilitate or hinder career advancement among male and female practitioners. Previous research has documented this effect in various professions, highlighting the need to explore how these dynamics play out in physical therapy, where gender diversity is becoming more pronounced (17). By investigating the interplay of gender, career advancement, and workplace perceptions, this study aims to contribute to a deeper understanding of the professional experiences of physical therapists in Pakistan. This exploration includes assessing the impact of organizational culture, gender stereotypes, and societal norms on the career paths of male and female practitioners, thereby offering insights into potential strategies for promoting gender equity in the field (18-20).

The current study focuses on career advancement, workplace gender equality, and organizational culture perceptions among physical therapists in Karachi, Pakistan. By analyzing these aspects, the research seeks to uncover the extent to which the glass escalator effect exists in this setting and how it influences the professional experiences of male and female physical therapists. This study aims to provide valuable data that can inform policies and initiatives designed to dismantle barriers to career advancement for women, enhance job satisfaction, and promote a more inclusive and supportive work environment for all practitioners (21-22). Ultimately, by addressing these challenges, the profession can move towards a more equitable future, where both men and women have equal opportunities to succeed and excel in their careers.

MATERIAL AND METHODS

The study was conducted as a cross-sectional observational design to assess gender disparities, career advancement, and workplace perceptions among physical therapists in Karachi, Pakistan. Data collection took place

from September to December 2023 across various hospitals and universities specializing in physical therapy. The sample size was determined using G*Power software version 3.1.9.4, based on previous literature that addressed similar gender-related issues in professional settings, with parameters set at a 5% level of significance, 95% confidence interval, 80% power, and 461 degrees of freedom, resulting in a calculated sample size of 462 participants. Participants were male and female physical therapy practitioners currently employed in academic and clinical facilities in Pakistan, aged between 22 and 55 years, with a minimum of two years of professional experience. Retired physical therapists and individuals unwilling to participate were excluded from the study.

Data were collected using in-person surveys administered through self-structured questionnaires specifically developed for the study, which included sections on Career Advancement and Associated Factors (CAAF), Workplace Gender Equality and Organizational Culture Perception (WGEOCP), and Ambivalent Sexism Attitude Perception (ASAP). A pilot study involving 20 participants was conducted to validate and assess the reliability of these questionnaires, yielding validity scores of 0.6 for CAAF, 0.65 for WGEOCP, and 0.68 for ASAP. Participants completed the surveys electronically via Google Forms, providing responses to 22 closed-ended questions designed to capture comprehensive data on their experiences and perceptions related to gender disparities and career advancement.

Ethical approval for the study was obtained in accordance with the Declaration of Helsinki, ensuring that all procedures were conducted with full consideration for the rights and privacy of the participants. Informed consent was obtained from all participants prior to data collection, and confidentiality was maintained throughout the study by anonymizing all responses and securely storing the data.

Data analysis was performed using SPSS software version 25. Descriptive statistics, including means, standard deviations, and percentages, were utilized to summarize demographic characteristics and key variables related to career advancement, workplace gender equality, and organizational culture perceptions. Inferential statistics, specifically independent t-tests, were employed to compare these variables between male and female participants, with significance levels set at $p < 0.05$. The t-tests were used to assess differences in scores on the CAAF, WGEOCP, and ASAP scales, with the assumption of equal variances verified using Levene's Test for Equality of Variances. The analysis aimed to identify significant differences in perceptions and experiences between genders, thereby providing insights into the existence and extent of the glass escalator effect within the physical therapy profession in Pakistan.

The methodology was designed to provide a robust and comprehensive analysis of gender-related factors affecting physical therapists in Karachi, with careful consideration given to ethical standards and the validity of the collected data. The findings from this study are expected to contribute valuable information towards understanding and

addressing gender disparities in the field, promoting a more equitable and inclusive professional environment for physical therapists.

RESULTS:

The results of the study are presented in detailed tables to provide a clear and organized view of the data. Below is the refined description of the results along with the improved layout of the tables. The study included 462 participants, with a nearly equal gender distribution of 50.6% male and 49.4% female. The demographic analysis showed that the participants were spread across various age groups, with 30.1% aged 20-29, 28.8% aged 30-39, 23.6% aged 40-49, and 17.5% aged 50 and above. This age distribution

indicates a broad representation of early to mid-career professionals in the field of physical therapy. Table 1 presents the qualification and experience levels of the participants. The most common qualifications were MS PT (42.0%) and DPT (35.7%), followed by a Bachelor's degree (21.0%). A smaller percentage had advanced degrees such as PhD and Post Doc. In terms of job roles, 50.9% were Senior Lecturers/Physiotherapists, 24.7% were Lecturers/Trainee Physiotherapists, and 23.6% were Assistant Professors/Senior Physiotherapists. Experience levels varied, with 49.1% having 1-5 years of experience, 31.0% having 6-10 years, and 19.9% having more than 10 years. Table 2 shows the group statistics for the key scales used in the study.

Table 1 Qualification and Experience of Participants

Highest Level of Education Completed	Frequency	Percent
Bachelors (BS)	97	21.0
DPT	165	35.7
MS PT	194	42.0
PhD	5	1.1
Post Doc	1	0.2

Table 1 Job Title and Years of Experience

Job Title	Frequency	Percent
Lecturer/ Trainee Physiotherapist	114	24.7
Senior Lecturer/ Physiotherapist	235	50.9
Assistant Professor / Senior Physiotherapist	109	23.6
Associate Professor/ Manager Physiotherapy	1	0.2

Table 1 Years of Experience

Years of Experience	Frequency	Percent
1 - 5 Years	227	49.1
6 - 10 Years	143	31.0
More than 10 Years	92	19.9

Table 1 Group Statistics

Scale	Gender	N	Mean
CAAF	Male	234	3.1265
CAAF	Female	228	3.3053
WGEOCP	Male	234	3.0736
WGEOCP	Female	228	3.0172
ASAP	Male	234	3.0689
ASAP	Female	228	2.8993

Table 1 Independent Sample t-test

Scale	t	df	Sig. (2-tailed)
CAAF	-9.826	460	0.0
WGEOCP	4.969	460	0.0
ASAP	8.422	460	0.0

The Career Advancement and Associated Factors (CAAF) scale revealed a mean score of 3.1265 for males and 3.3053 for females, indicating a slightly higher perception of career advancement among female participants. For the Workplace Gender Equality and Organizational Culture Perception (WGEOCP) scale, males had a mean score of 3.0736, while females scored 3.0172, suggesting similar perceptions between genders. On the Ambivalent Sexism

Attitude Perception (ASAP) scale, males had a higher mean score of 3.0689 compared to females, who scored 2.8993, indicating a greater perception of sexism among male participants.

Table 3 presents the results of the independent sample t-tests comparing male and female participants across the three scales. For the CAAF scale, there was a significant difference between genders ($t = -9.826$, $p = 0.000$), with

females showing higher scores. The WGEOCP scale also showed significant gender differences ($t = 4.969$, $p = 0.000$), with males perceiving greater equality. Lastly, the ASAP scale revealed a significant difference ($t = 8.422$, $p = 0.000$), with males reporting higher scores, indicating a stronger perception of sexism.

These results suggest that while female physical therapists in Pakistan perceive greater career advancement opportunities, their views on workplace gender equality are similar to those of their male counterparts. However, males reported a higher perception of ambivalent sexism, highlighting the nuanced dynamics of gender disparities in the field of physical therapy. Further research is recommended to explore these findings in more depth and to develop strategies for promoting equity in the profession.

DISCUSSION

This study explored gender disparities in career advancement, workplace equality perceptions, and attitudes towards ambivalent sexism among physical therapists in Karachi, Pakistan, examining the potential existence of the glass escalator effect. The findings revealed that female physical therapists perceived greater career advancement opportunities compared to their male counterparts, which contrasts with the glass escalator phenomenon typically seen in other female-dominated professions, where men are often fast-tracked to leadership positions (11). The results indicated that gender-related barriers to career progression might not be as pronounced for females in this context, which aligns with studies suggesting that the increasing feminization of certain professions does not necessarily impede women from accessing higher roles (24).

Despite these findings, the study also identified that male participants perceived slightly better workplace gender equality, although the differences were not substantial. This suggests that both male and female physical therapists in this setting largely shared similar views on organizational culture and gender equity, which contrasts with previous research that has highlighted persistent gender inequities in health professions, particularly affecting women's perceptions of workplace support and opportunities (25). The nuanced perceptions of gender equality and organizational culture observed here could reflect broader societal shifts towards gender parity in professional environments or specific institutional policies that promote equal opportunities.

The higher scores for ambivalent sexism attitudes among male participants reflect the complex dynamics of gender biases that persist within the field. These findings resonate with previous studies that have documented how men, even in female-dominated professions, can experience and internalize different forms of sexism, impacting their workplace interactions and perceptions (13). The presence of ambivalent sexism in professional settings underscores the need for targeted interventions that address these biases through training and policy reforms aimed at fostering a more inclusive and supportive work environment for all genders.

A notable strength of this study was its large, balanced sample size, which provided a comprehensive overview of gender perceptions within the physical therapy profession in Karachi. The inclusion of participants from both clinical and academic settings allowed for a broader understanding of the professional landscape and the factors influencing gender disparities. However, the study had limitations, including its cross-sectional design, which restricted the ability to establish causality between gender and career advancement perceptions. Additionally, the reliance on self-reported data could have introduced response biases, with participants potentially overestimating or underestimating their experiences due to social desirability. Another limitation was the regional focus on Karachi, which may limit the generalizability of the findings to other contexts or regions with different cultural or organizational norms. Future research could benefit from a longitudinal design to track changes in gender perceptions over time and explore the impact of specific interventions aimed at reducing gender disparities. Expanding the study to include other cities or regions would provide a more comprehensive picture of the professional dynamics across Pakistan.

Recommendations for practice include the implementation of targeted gender equity initiatives within the physical therapy profession, such as mentorship programs, gender sensitivity training, and policies that actively promote female leadership. These strategies could help mitigate the subtle biases and structural barriers that persist, ensuring that career advancement is based on merit rather than gender. Additionally, ongoing monitoring of workplace culture and the development of clear, transparent criteria for promotions and leadership opportunities could further support the equitable treatment of all practitioners.

CONCLUSION

In conclusion, while the study did not find evidence of a glass escalator effect favoring men in physical therapy in Karachi, it highlighted important gender differences in perceptions of career advancement and ambivalent sexism. Addressing these issues through targeted policy interventions and continued research will be crucial in advancing gender equity within the profession, ultimately contributing to a more inclusive and supportive work environment for all physical therapists.

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