

Reflections and Contemplations of Women professionals' Contributions: Impressions of Recent Research in the Journal of Documentation

Shipra Awasthi* and Shiva Kanaujia Sukula

*E-mail: shipra2010@gmail.com

ABSTRACT

Literary history and libraries' progress are evident of women professionals' contributions. Since the beginning, women professionals' roles and responsibilities in different capacities have been quite phenomenal. The present study highlights the contributions published in the Journal of Documentation for the period 2015-2019. It attempts to study the variations existing in research output from a gender perspective and a brief review of women professionals' journey and job-related aspects from traditional to contemporary times. The information is collected from the Journal of Documentation (JoD). The study focuses on the year-wise distribution of articles and authors, collaboration patterns among the gender, authorship pattern, geographical distribution, the annual growth rate of female contributors, and average productivity of male and female authors per article. The findings revealed that the annual growth rate of the female contributors was 28.6 in 2019. The male author's average productivity per article is 1.23, and 1.12 is the female contributors' average productivity per paper. The study is beneficial in understanding the women's contributions in international journals, and it has also revealed that the publication gap is not huge. Still, it is minimal except in a few circumstances.

Keywords: Women librarians; Women professionals; Male professionals; LIS research; Journal of documentation (JoD); Gender research contribution; Bibliometric study

1. INTRODUCTION

Women professionals in libraries have been serving and contributing for a long past. Their professional contributions have shaped libraries across the globe. The professional literature reflects the journey of development as well as the contributions of women library professionals. The different roles and abilities of women library professionals have been seen through the literature as observed in the words of (DeLong, 2013)¹, "From the 1990s to the present, the evidence shows the number of women in senior leadership roles increased". Women professionals' efforts have improved the professional status and eliminated the ambiance that inhibited their contributions, achievements, and progress. The factors responsible for their continuous involvement and development in the library and information services include high qualifications, performances, and contributions in publications.

2. BACKGROUND STUDIES

The background studies in the form of a literature review have been divided into the following sections to elaborate on the concept and understand women's librarianship development.

2.1 The Early Past

The women professionals in libraries have been serving since very past, as found in published literature. There have

also been 'women's issues' at work and in libraries from the start. The requirements and platforms for equal opportunity and investment have long been abandoned. The job satisfaction of librarians by comparing men's and women's job satisfaction has attracted attention in the past (Wahba, 1975).² (Phenix, 1987)³ studied the state of women's libraries in the United States by comparing 1980 census data from 136,000 libraries in the United States and finding that 84.6 percent were women librarians.

(Maack,1983)⁴ talked about the rise and contributions of women librarians in France while discussing the developments that took place in the USA for two centuries. In her words, the "feminisation of librarianship in France was also rapid and dramatic, but it did not begin until after World War." However, it prepared the first generation of women librarians. The achievements of women library professionals have paved the way in the varied cultural and intellectual scenarios. The discussions over the women professionals in library and information work have always been components of parallel developments in their place and contributions.

2.2 The Work-family Balance

In the next decade, there have been few suggestions by (Burrington,1993)⁵ regarding the problems in the advancement of women library professionals such as a lack of child-care facilities, job mobility (Braunagel,1979)⁶, flexible working hours, the existence of prejudice in the professional environment, including lack of ambition and specific

professional qualifications among women professionals to achieve higher positions. (Passet,1990)⁷ shared about women academic librarians in the context of “while top appointments in prestigious western universities”. In the past, females’ leadership in the libraries has been studied to examine their “headship” in the form of leadership in libraries (Blankenship,1967).⁸ The chances and platforms to learn, receive training, and develop skills among women professionals tend to support women professionals in libraries. The relation of work and family is both sided to fulfill and interfere (Ayo, Henry, and Adebukola, 2009).⁹

2.3 Career Advancement, Opportunities, and Technology Adaptation

Long ago, a study from India emphasised the constitution of interview panels, mainly comprised of men librarians in high professional positions, and “women candidates have to prove their suitability for top positions (Dasgupta,1998).”¹⁰ To add further, (Dasgupta,1998)¹⁰ mentioned the increased number of women library professionals. Yet, the acceptance of their leadership was doubtful. In her words, women librarians must “be extremely qualified, must have proven records of accomplishment, and be well prepared for the position to which they aspire. Once in the position, women have to balance between their accepted behavioral pattern and the role of a professional in that position”. Later, at the beginning of the current millennium, (Majanja and Kiplang,2003)¹¹ investigated women library professionals’ status and occupational characteristics in Kenya. Their study emphasised the comparison of their status to that of their male counterparts as “Kenyan women librarians’ status has consistently been lower than men’s in terms of position, salary and other remuneration” and suggested women librarians should be encouraged with the support of policies and legislation for equal opportunities. (Ladner, 2004)¹² studied the “Career Patterns” of women library professionals from the perspective of technologies, especially the Internet; with “moderate satisfaction with supervision and responsibility; and high dissatisfaction towards policy and administration of libraries (Badawo, 2008).”¹³ Later, (Kont and Jantson,2013)¹⁴ found out that in Estonia, “the predominantly women’s jobs, such as teachers, librarians, and nurses, are low-paid” and reflect a positive aspect of professionals’ capability and willingness to achieve performance output in context with the division of labor and coordination and intra-organisational career opportunities.

The issues related to services conditions and other promotional avenues have been discerned, yet women professionals’ contributions need more attention to be measured; “work performance of the library professionals on the seven domains are rated proficient (Madhu Bala and Singh,2014).”¹⁵ The independent and collective effects of demographic variables and self-efficiency among women academic Librarians working in tertiary institutions in Nigeria. The job opportunities and professional achievements, and career patterns have been intricately associated with the publishing contributions (Adjah and Walt, 2017)¹⁶. The continued growth of women library professionals has been seen through the achievement of higher education and

professional qualifications, contributing to the hierarchy of jobs in all types of libraries at all levels, and the differences in job satisfaction of university library professionals (Marasinghe and Wijayaratne, 2018).¹⁷ There have been investigations to understand the discrepancy between librarians and library staff by “gender, race, library type, position in the library, and library work performed” (Martin, 2020)¹⁸ and several factors significant such as socio-cultural and work environment. (Moni and Lambodara, 2020)¹⁹ conducted a study to quantify the LIS women faculty’s research contribution in India between 1988 and 2018. The results revealed that Indian women faculty tends to publish more on the international platform than a national one.

The identification of the common barriers women professionals face in hi-tech careers in Bangladesh is found as unique barriers in the socio-cultural context “due to socio-cultural practices and gender. The general practice is that male has control over resources which restrict the women’s access to various opportunities (Saifuddin, Dyke, and Hossain, 2019).”²⁰ The diverse contributions in the American Society of Mammalogists (ASM) during the centennial celebration have shown women’s participation and research contributions in ASM (Dizney, Karr, and Rowe, 2019).²¹ Another study shows men and women’s engagement yet the prevalence of women authors of original articles published during the last 15 years and compared the research contributions and positions gender-wise (Gayet-Ageron, Poncet and Perneger, 2019).²² The findings inferred that the representation of women authors of medical articles enhanced considerably between 2010-2015, but the percentage is still below 50 per cent.

3. RELEVANCE OF THE STUDY

Worldwide, an organisation’s ranking is based on the research & development leading to society’s growth. The balanced research needs to be carried out equally by both genders of the community. In the past, women’s research contribution lagged for various reasons related to the recourse to multiple sources. It is pertinent to assess the productivity of the recruitment of women professionals. The study will provide the generic model of the collaboration if it is specific to the women professionals’ research productivity in various countries.

The policy decisions can be enlightened to support and promote the women professionals’ in other countries, such as the UK and USA, where the women professionals lead in the research. The research productivity gap between males and females is also portrayed in the study to understand the scenario. Still, there is a need to encourage the women in R&D. The authors presume that a gap exists in the contributions made by the male-female authors from various countries in context with the research productivity. The readers will have a glimpse of the women’s contributions in publishing on an international platform such as the journal of documentation through the present study.

4. IDENTIFIED GAPS IN LITERATURE AND SIGNIFICANCE OF THE CURRENT STUDY

The literature has shown several aspects addressed in

women professionals, such as service areas, work-life balance, librarians' career choices, and opportunities, yet the gaps were identified in the contribution of women professionals' to research activities and publications. The study is designed to meet the challenge of evaluating women's professionals' research findings, particularly in the Journal of Documentation. The Journal of Documentation has been chosen to contemplate the professionals' research contributions as a comprehensive publication of information services from traditional librarianship perspectives, innovative library services, technology inclusions, and professional issues. The study would help formulate the policies to support and stimulate the female professionals to contribute to research. The reciprocity is based on a policy of reassurance and encouragement for women professionals and participants. After reviewing the published literature, which has been broadened over the long term and many aspects of women library professionals, contributions were observed in many areas. Still, there was a void to explore women's professionals' roles in research and publishing.

5. PRESENT STUDY, OBJECTIVES, AND METHODOLOGY

The authors have tried to discern one aspect of women professionals' contributions in publishing scholarly articles. The professional experiences and research investigations in libraries carried out by them have taken various publications. The present study is an attempt to understand the vision of women professionals in publishing research. The Journal of Documentation (JoD)²³ was chosen for data collection related to studies conducted during 2015-2019.

The different aspects related to academic publications and opinions of professional women over the past five years have been analysed in the following areas:

- Number of contributions by male-female professionals'
- Average Growth Rate of publications by women professionals'
- Number of contributions and visibility from various countries
- Comparing the combinations of various collaborative authors'
- Comparison of working backgrounds of male-female professionals'

5.1 The Objectives of the Study

- To understand the annual growth rate of women professionals' publishing visibility and the different professional engagements.
- To compare the year-wise distribution of the publication and gender-wise authorship pattern in JoD during 2015-2019 years.
- To observe various collaborative combinations of authors in research publishing.
- To highlight the research contributions of women professionals by comparing gender-wise publications from various countries.

5.2 Scope

The present study is limited to women professionals'

contributions in research published in the Journal of Documentation. The authors have tried to find out the changing patterns of women professionals' research publishing in the light of results found through gender-wise comparisons during 2015-2019.

5.3 Research Questions

The highlighting research questions in the present study are related to:

- What are the trends in research productivity of women professionals' in the most recent times?
- What are the collaborative patterns of women professionals in the changing scenario?
- How can the considerable publishing occurrences answer these research questions in JoD?

5.4 Methodology and Limitations

The study has collected data from the Journal of Documentation (JoD) (<https://www.emerald.com/insight/publication/issn/0022-0418>) from 2015-2019 to study female professionals publishing contributions in the selected journal. The journal is esteemed and reputed and covers research from various interdisciplinary fields. The total sample size, including 348 articles and a vast number of 816 authors, was selected as the study sample. The year-wise research output and the authors' names and details of their affiliation were collected by visiting each journal's issue. The authors' gender and designation of the details were obtained from the author's website (college/university/ institution) during April 29th – May 10th, 2020. Few aspects of female professionals' contribution to publishing patterns have been touched upon to reflect and highlight their position. The data collected was organised, tabulated in the Excel file for the analysis. The study's expansion is stretched over the last five years, i.e., 2015-2019, which provided ample data for the investigation. The data collected from the previous five years has helped to highlight the latest trends in the study.

6. DATA ANALYSIS

The data organisation has been done to reflect the different perspectives, comparisons, and visibility of women professionals. Data is arranged in chronological order in descending order to facilitate a clear understanding.

Table 1. Year-wise distribution of publication and authors

Year	No. of articles (%)	No. of authors (%)	Male (%)	Female (%)
2019	80 (22.98)	243 (35.16)	35(31.61)	108(27.76)
2018	69 (19.82)	178 (21.81)	94(22.01)	84(21.59)
2017	71 (20.40)	142 (17.40)	75(17.56)	67(17.22)
2016	59 (16.95)	120 (14.70)	55(12.88)	66(16.96)
2015	69 (19.82)	133 (16.29)	69(16.15)	64(16.45)
Total	348	816	427	389

6.1 Year-wise Distribution of Publication and Authors

Table 1 displayed that during five years, the total number of publications, 348, are contributed by 816 authors in 30 issues of 5 volumes from 2015-2019 in the Journal of Documentation. It is displayed in the Table 1 that 389 female authors and 427

Table 2. Authors' wise authorship pattern

Authorship Pattern	Male (%)	Female (%)	Male-Female (%)	Total
Single author	80 (70.2)	60 (55.6)	0	140
Two author	18 (15.8)	38 (35.2)	54 (42.9)	110
Three author	11 (9.6)	6 (5.6)	31 (24.6)	48
Four author	3 (2.6)	1 (0.9)	18 (14.3)	22
Five author	1 (0.9)	2 (1.9)	9 (7.1)	12
more than Five author	1 (0.9)	1 (0.9)	14 (11.1)	16
	114	108	126	348

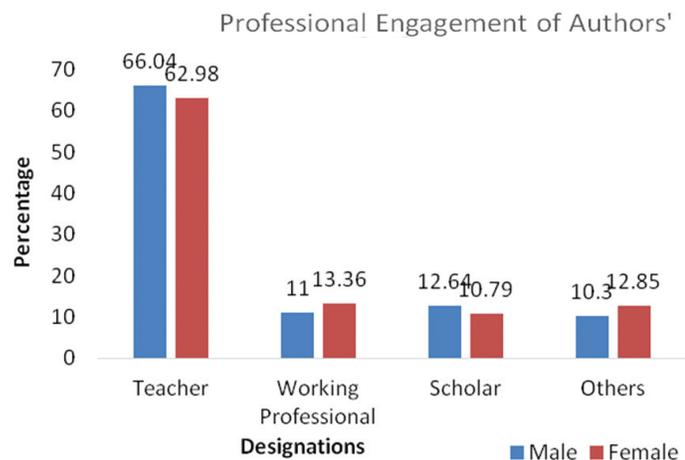


Figure 1. Professional engagements of authors'.

Table 3. Year-wise collaborative combination of authors'

Year	Only Male	Only Female	Male-Female authors	Male-Male authors	Female-Female authors	Total
2019	13(16.3)	15(25.0)	36(28.57)	8(23.52)	8(16.66)	80
2018	10(12.5)	10(16.66)	31(24.60)	10(29.41)	8(16.66)	69
2017	17(21.25)	15(25.0)	21(16.66)	9(26.47)	9(18.75)	71
2016	16(20.0)	9(15.0)	21(16.66)	2(5.88)	11(22.91)	59
2015	24(30.0)	11(18.33)	17(13.49)	5(14.70)	12(25.0)	69
Total	80 (22.98)	authors'4)	126(36.20)	34(9.77)	48 (13.79)	348

male authors have contributed to the journal. The male authors made the highest number of contributions: 135 (31.61 %) in the year 2019, and the lowest contribution consists of 55(12.88 %) in the year 2016. Similarly, the female contributors' highest contribution includes 108 (27.76 %) in the year 2019, and the lowest constitutes 64 (16.45 %) in the year 2015. The data shows that significant publications are from the year 2019 in both kinds of professionals.

6.2 Gender-wise Authorship Pattern

Table 2 revealed the pattern of authorship that exists in the Journal of Documentation (JoD). The data were classified into articles by one author, two author articles, three author articles, four author articles, five author articles, and more than five author articles. It is found that 80 (70.2) male professionals have contributed as a single author, followed by 60 (55.6) women professionals. Table 2 shows that as the collaboration pattern increases, the contribution decreases from male and female professionals. Single authorship is dominating by both male and female researchers. The contribution by two-authorship pattern in the category male-female constitutes 54 (42.9), which is the highest, and the lowest is 9(7.1) by five authors.

6.3 Professional Engagements of Authors'

Figure 1 displays the authors' professional engagement by male and female contributors during the last five years in the JoD. The professional backgrounds of women professionals are reflected and compared with male colleagues in libraries as well. It is evident from the Fig. 1 that 282 (66.04) of male contributors are engaged in the teaching profession, trailed by 54 (12.64) scholars, including doctoral, graduate, and Postdoctoral students. Also, to note that 245 (62.98) female authors are appointed as teachers, followed by 52 (13.36) other working women professionals. The male and female contributors with various designations are put in the other category and indicated a fair number of publications by women with 50 (12.85) and males with 44 (10.30).

6.4 Year-wise Collaborative Combination of Authors'

Table 3 indicates the collaboration pattern of male and female professionals. Table's data revealed various collaborative publishing relations of women professionals with other women and male professionals. It is represented in Table 3 the number of male and female researchers who contributed individually. Table 3 presents the male-female, male-male, and female-female collaboration models. Male and female collaboration participants most with 126 articles (36.20), followed only by male professionals with 80 articles (22.98).

The female-female authors published 48 (13.79), trailed by male-male authors with 34(9.77) publications. Besides, we found that the proportion of skilled women

Table 4. Average author productivity distribution

Year	No. of articles	No. of authors	Male	*AMPP	Female	**AFPP
2019	80	243	135	1.68	108	1.35
2018	69	178	94	1.36	84	1.21
2017	71	142	75	1.05	67	0.94
2016	59	120	54	0.91	66	1.11
2015	69	133	69	1.0	64	0.92
Total	348	816	427	1.23	389	1.12

(* AMPP- Average Male Author Per Paper ** Average Female Author Per Paper)

Table 5. Contributions and visibility from various countries

Country	No. of authors	Male (%)	Female (%)
UK	161	79(18.5)	82(21.07)
USA	147	54(12.64)	93(23.90)
Sweden	60	31(7.25)	29(7.45)
China	59	30(7.02)	29(7.45)
Finland	55	34(7.96)	21(5.39)
Canada	41	12(2.81)	29(7.45)
Germany	32	16(3.74)	16(4.11)
Denmark	29	18(4.21)	11(2.82)
Norway	28	16(3.74)	12(3.08)
Australia	27	14(3.27)	13(3.34)
Greece	18	18(4.21)	0
Spain	16	11(2.57)	5(1.28)
The Netherlands	16	10(2.34)	6(1.54)
Austria	12	10(2.34)	2(0.51)
Italy	12	10(2.34)	2(0.51)
Belgium	10	9(2.10)	1(0.25)
Singapore	10	5(1.17)	5(1.28)
Other Countries	83	50(11.70)	33(8.48)
Total	816	427	389

Table 6. Annual growth rate of female contributors

Year	Female contributors	AGR
2015	64	0.0
2016	66	3.1
2017	67	1.5
2018	84	25.4
2019	108	28.6

is higher when working at the individual level and lower in collaboration with other female peers. But the contribution is highest when it comes to publishing in partnership with male peers.

6.5 Gender-wise Average Author Productivity Distribution

Table 4 and Fig. 2 displayed the average author productivity distribution by gender during the last five years. (Yoshikane *et al.*, 2009)²⁴ have given the formula for computing the average

productivity per author as below:

$$\text{Average Author Per Paper} = \frac{\text{No. of Authors}}{\text{No. of Papers}}$$

The above procedure assisted in calculating the Average male author paper (AMPP) and Average female author paper (AFPP), as given below

$$\text{Average male author paper (AMPP)} = \frac{\text{No. of the male author}}{\text{No. of papers}}$$

$$\text{Average female author paper (AFPP)} = \frac{\text{No. of the female author}}{\text{no.}}$$

The analysis disclosed that the journal had published 348 articles from 2015-2019, and the average no. of authors per paper is 2.34. The AMPP has been analysed and found that 1.68 was highest in 2019, and 0.91 was the lowest in 2016. Similarly, the authors' AFPP revealed that 1.35 was highest in 2019, and 0.92 was lowest in 2015. The male authors' overall average during the five-year study is 1.23, and 1.12 for female authors.

6.6 Contributions and Visibility from Various Countries

The data demonstrates the publication status of multiple countries among male and female professionals. Table 5 revealed that the first position is occupied by the USA 93 (23.90), followed by UK 82 (21.07) among women professionals. The third place is shared by Sweden and China, with 29 (7.45) contributions from women professionals. The male professionals 79 (18.5) from the UK have occupied first place, followed by the USA, 54(12.64) in the second place and 31 (7.25) from Sweden in the third place.

6.7 Annual Growth Rate of Female Contributors

Table 6 and Fig. 2 reveals the annual growth rate of female authors' publications during the five years. It reflects the average growth rate of scientific publications by women professionals' over the previous five years.

The formula for the computation of the same is provided by Kumar and Kaliyaperumal (2015)²⁵ as below:

$$\text{AGR} = \frac{(\text{End Value} - \text{First Value})}{\text{First Value}} * 100$$

It is evident from the Table 6 that the AGR of female authors is highest in 2019 with 28.6 and the lowest AGR 0 in the year 2015. The AGR of female authors is 25.4 in the year 2018, while it was 3.1 in 2016. The difference in the annual growth rate is rising each year, and it is visible from the Fig. 2.

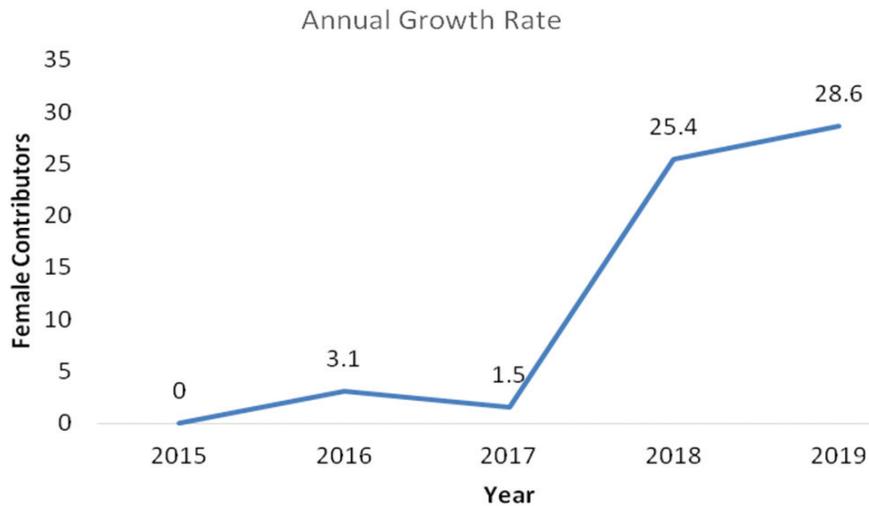


Figure 2. Annual growth rate of female contributors.

7. DISCUSSION

The present study is useful in indicating the productivity of men and women professionals. The scenario in other parts of the country is the same as in India. Still, the countries like the UK, USA, and Canada stand apart where the female contributors dominate the publishing world. The average male author productivity per paper is 1.23, and the average female author's productivity per author's 1.12. The study also highlights the annual growth rate of the contributions made by the female over five years. The data reveals that in 2019 the annual growth rate is 28.6, which again favors female participation in research, and the graph is growing upwards, as displayed in Fig 2. The male-female professionals contributed majorly in the journal, followed by male professionals individually. (Natureindex,2020) reported that women researchers face intensification of domestic responsibilities at home during pandemic times, leading to reduced scholarly production compared to male counterparts. The "International Journal of Urban and Regional Research" has taken the initiative to prioritise women and early-career researchers by putting their papers at the front of the review-queue. CellPress journal's editorial advisory board is currently 40 per cent women targeting 50 per cent by the end of this year.²⁶ The US National Academy of Sciences' Committee on Women in Science, Engineering, and medicine will soon launch a study on the pandemic's effect on women scientists' careers. The scientists from this study will assist the funding community in creating gender-specific policies (Nature, 2020).²⁷ The Australian Research Council (ARC) in Canberra concluded that although female researchers' percentage rose from 43 per cent in 2015 to 44 per cent in 2018, these researchers are under-represented in science, technology, engineering, and mathematics (Gewin, 2020).²⁸ The different initiatives are being taken to support female professionals in research & development.

The researchers may select other international journals for such a study to understand female contributors' patterns and variations in gender publication. The International Journal (JoD) analysis identifies the reasons for such a model and female working professionals' proportion.

The professionals' ratio of publishing in scholarly journals reflects the increasing awareness among women professionals. The awareness is related to their services and their capacity to cope and pace with their field's current developments.

8. CONCLUSIONS

Though it has been observed from the literature and the present study that the association and contribution of women professionals have been diverse and increasing, certain areas are still less touched and intrigued. The inclusion of technologies and other reasons such as augmented service conditions, government policies, and organisational factors have emerged to reframe the women professionals' contributions in offering different services and research publications. This research has determined the geographical areas of contributions such as the UK, USA, China, Sweden, Finland, Canada, Germany, Denmark, and other countries as mentioned in the table. Significant comparisons identified Author Productivity Distribution, Year-wise distribution of publications, and Gender-wise authorship. The gaps identified in the contribution of developed and developing countries and the collaborative mix of male and female authors still need to be explored. The annual growth rate of research contributions by women professionals' and collaborations with teachers-faculty members and other working professionals would be shaping the future of research if explored further. In one of the studies, it was concluded that women professionals publish more on the international platform than the national one, but it is observed in the JoD that the contribution of female professionals is not high from different countries except UK and the USA (Moni and Lambodara, 2020).¹⁹

9. BEST PRACTICES

- The apex body may take necessary measures to enhance the contribution of women professionals in research.
- The organisations/academic institutions need to organise various programs or introduce projects at an institutional level to involve the women professionals in research & development activities.
- The frequent assessment of male-female research contributions by the organisations would bring forth the gender gap.
- The funding agencies should set quotas for funding allocation (Dhatt, 2020).²⁹

The literature has observed that the main emphasis has been on work and social life, working conditions, service policy, and employment opportunities for women professionals'. The growing attentiveness and absorption in gender issues and female professionals' has generated a curiosity in several studies. This study has attempted to highlight women professionals' published contributions and provide a glimpse of gaps to be filled in the future. Still, the increased admission

of women professionals in higher and leading positions would change the scenario shortly.

REFERENCES

- DeLong, K. Career advancement and writing about women librarians: A literature review. *Evid Libr. Inf.*, 2013, **8**(1). doi: 10.18438/B8CS4M.
- Wahba, S.P. Job satisfaction of librarians: A comparison between men and women. *Coll. Res. Libr.*, 1975, **36**(1). doi: 10.5860/crl_36_01_45.
- Phenix, K. The status of women librarians. *Frontiers: A Journal of Women Studies*, 1987. *Frontiers: J. Women Stud.*, 1987, **9**(2), 36-40. doi: 10.2307/3346187.
- Maack, M.N. Women Librarians in France: The first generation. *J. Libr Hist. (1974-1987)*, 1983, **18**(4). <https://www.jstor.org/stable/25541456>. (Accessed on).
- Burrington, G. *Equally Good*, Library Association, London, 1993.
- Braunagel, J.S. Job mobility of men and women librarians and how it affects career advancement. *Am. Libr.*, 1979. <https://www.jstor.org/stable/25623913>. (Accessed on July 5th 2020).
- Passet, J.E. Women Academic Librarians on the Western Frontier, 1900-1920, *Libr. Q.*, 1990, **60**(4), 320-336. doi: 10.1086/602264.
- Blankenship, W.C. Head librarians: how many men? How many women? *Coll. Res. Libr.*, 1967, **28**(1). <https://crl.acrl.org/index.php/crl/article/view/11918/13364>. (Accessed on 21 April 2020).
- Ayo, H.T.; Henry, S. & Adebukola, K.T. Psychosocial variables as predictors of work-family conflict among secondary school teachers in Irele Local Government area, Ondo State, Nigeria. *Pakistan J. Soc. Sci.*, 2009, **6**, 11-18.
- Dasgupta, K. (1998). Women as managers in libraries: A development process in India. *IFLA Journal*, 1998, **24**(4), 245-9.
- Majanja, M. & Kiplang'at, J. Women librarians in Kenya: a study of their status and occupational characteristics. *Libr. Manage.*, 2003, **24**(1/2), 70-78. doi: 10.1108/01435120310454539.
- Ladner, S.J. Career patterns of women librarians who were early adopters of the Internet. Dissertation: Florida State University Tallahassee, 2004. http://purl.flvc.org/fdu/fdu_migr_etd-3322. (Accessed on July 16th 2020).
- Badawo, G. Factors affecting the levels of job satisfaction of female librarians in Nigeria: A test of Herzberg's Hygiene/ Motivator Factors. *Samaru J. Inf. Stud.*, 2008, **6**(1&2), 6-12. doi: 10.4314/sjis.v6i1.40591.
- Kont, Kate-Riin & Jantson, S. Division of labor and coordination, intra-organisational career and salary fairness: Study in Estonian university libraries. *Libr. Manage.*, 2013, **34**. doi: 10.1108/LM-10-2012-0069.
- Madhu Bala, C. & Singh, M.P. Job satisfaction among female library professionals working central university libraries of Banaras Hindu University, Varanasi, Uttar Pradesh: A study. *Asian J. Inf. Sci. Technol.*, 2014, **5**(1), 42-48.
- Adjah, O.A. & Walt, T. Van der. Career progression of female librarians in public university libraries in Ghana. *J. Libr. Inf. Sci.*, 2017, **51**(2), 331-345. doi: 10.1177/0961000617742445.
- Marasinghe, M. & Wijayarathne, A. The impact of gender differences on job satisfaction of university library professionals. *J. U. Libr. Assoc. Sri Lanka*, 2018. doi: 21.1.10.4038/jula.v21i2.7905.
- Martin, J. Job satisfaction of professional librarians and library staff. *J. Libr. Adm.*, 2010, **60**(4), 365-382. doi: 10.1080/01930826.2020.1721941.
- Moni, J.D. & Lambodara, P. Research productivity of LIS women faculty in India: A bibliometric study during 1988-2018. *Libr. Philos. Pract. (e-journal)*, 2020, 4298. <https://digitalcommons.unl.edu/libphilprac/4298>. (Accessed on December 22nd 2020).
- Saifuddin, S.; Dyke, L. & Hossain, M.S. Walls all around: Barriers women professionals face in high-tech careers in Bangladesh. *Equality, Diversity and Inclusion: Int. J.*, 2019. <https://www.emerald.com/insight/content/doi/10.1108/EDI-11-2017-0247/full/html>. (Accessed on January 20th 2021).
- Dizney, L.J.; Karr, J. & Rowe, R.J. The contribution and recognition of women in the field of mammalogy. *J. Mammal.*, 2019, **100**(3), 678-689.
- Gayet-Ageron, A.; Poncet, A. & Perneger, T. Comparison of the contributions of female and male authors to medical research in 2000 and 2015: A cross-sectional study. *BMJ Open*, 2019, **9**(2), e024436.
- Journal of Documentation*. <https://www.emerald.com/insight/publication/issn/0022-0418>. (Accessed on April 10th 2020).
- Yoshikane, F; Nozawa, T.; Shibui, S & Suzuki, T. An analysis of the connection between researchers' productivity and their coauthors' past contributions, including the importance in collaboration networks. *Scientometrics*, 2009, **79**(2):435-449.
- Kumar, R.S. & Kaliyaperumal. A Scientometric analysis of Mobile technology. *Scientometrics*, 2015, **105**(2), 921-939.
- <https://www.natureindex.com/>. (Accessed on December 21st 2020).
- The career cost of COVID-19 to female researchers, and how science should respond. *Nature*, 2020, **583**, 867-869. doi: 10.1038/d41586-020-02183-x.
- Gewin, V. The career cost of COVID-19 to female researchers, and how science should respond. *Nature*, 2020, **583**, 867-869. doi: 10.1038/d41586-019-03585-2.
- Dhatt, R. The career cost of COVID-19 to female researchers, and how science should respond. *Nature*, 2020, **583**, 867-869. doi: 10.1038/d41586-020-02183-x.

CONTRIBUTORS

Dr Shipra Awasthi is working as Assistant Librarian at Dr B R Ambedkar Central Library, Jawaharlal Nehru University, New Delhi. Her areas of interest include: Open access, institutional repository, digital library, scholarly communication and academic publishing.

Contribution in the current study includes collection and organisation of data, data analysis, organisation of the work and revision.

Dr Shiva Kanaujia Sukula is working as Deputy Librarian at Dr B R Ambedkar Central Library, Jawaharlal Nehru University, New Delhi. Her professional competencies and interests involve ICT applications, human aspects and open technologies. Contribution in the current study includes writing an introduction, writing literature review, organisation of the work and revision.