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Relationship between Psychosocial Factors and Career Development among Medical Doctors – A Systematic Review

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Abstract

The purpose of this paper is to provide an update and theory-driven meta-analysis on relationship between psychosocial factors, time management, gender and career development among medical doctors. The authors quantitatively review the relationships between psychological contract, work life balance, gender, and career development among medical doctors. The authors analyse the relationships between three pairs of antecedents using a resource-based approach (psychological contract, work life balance, gender) and career development. This inclusion of different antecedents allows the authors to investigate the comparison of the relationships between the favourable antecedents – career development relationships and the unfavourable antecedent – career development relationships. In addition, the authors analyse how and to what extent psychosocial factors influences medical doctor towards career development.

Keywords: Psychological Contract, Work Life Balance, Gender, Career Development

Introduction

Malaysia has realized its enormous potential as a preferred healthcare vacation destination for the world, as one of Asia's most recognized developing countries (Malaysian Investment Development Authority, 2020). For patients' peace of mind, Malaysian healthcare is an appealing option, providing world-class quality treatment that is conveniently accessible and competitively priced. According to the Malaysian Ministry of Tourism, 1.2 million tourists visited Malaysia in 2018 in search of medical help. Malaysia's overall healthcare spending, which was RM52 billion at the end of 2017, was predicted to reach RM80 billion by 2020, owing to rising demand for healthcare services and the introduction of alternative care models outside of traditional hospital settings (Malaysian Healthcare Conference, 2019). Consumer sophistication in relation to healthcare-related technologies is also beneficial,

according to the report. Pharmaceuticals, diagnostics, medical technology providers, digital health vendors, and healthcare service providers, according to Frost and Sullivan partner Rhenu Bhuller (2018), face both difficulties and possibilities because of rapid technological advancements. According to the Ministry of Health, there are 144 hospitals and Special Medical Institutions in Malaysia as of December 31, 2018. There are 135 hospitals and 9 Special Medical Institutions with a total of 37,609 and 4815 beds available to treat patients. In 2018, there were 61158 doctors available, including government, non-government, and private practitioners. However, the World Health Organization (WHO) states that Malaysia still falls short of the standard of one doctor per 400 people, with one doctor every 500 people. Malaysia had one doctor for every 554 people in 2018, according to the health ministry's budget for 2020. This number includes housemen. Malaysia also plans to have one doctor for every 530 people, according to the 2020 budget. The health minister also stated that they will give more importance on producing quality doctors rather than quantity and will place a greater emphasis on producing specialized doctors, indicating that the focus will be on producing quality doctors by focusing on improving career development among medical students and medical doctors (Budget Ministry of Finance Malaysia, 2020). Although historically in developing nations, the focus has been on the quantity rather than the quality of health services, substantial data demonstrates that the quality of care (or the lack thereof) must be at the heart of any communication about betterment of healthcare (Flynn et. al, 2017).

Psychological Contract (PC)

Psychological contract has grown significantly in recent years, the concept of the psychological contract may be traced back to Argyris (1962), who mentions it in his study related to Psychological Contract. The psychological contract, according to Dadi (2012), is the unwritten (work) agreement and the total of mutual (work) expectations. These definitions are at best problematic, resulting in multiple modifications throughout time (Schein, 1990; Herriot and Pemberton, 1996). To date, the most widely accepted definition comes from Rousseau (1995) work, which sought to eliminate the issue of levels associated with an agreement reached between an organisation and an individual by defining the psychological contract as an individual's beliefs about mutual obligations in the context of an employer-employee relationship. The psychological contract explains a worker's acknowledgment of mutual obligations between them and their employer, such as the employer's commitments (e.g., training and development) in exchange for the employee's commitments (e.g. hard work) (Rousseau, 1989, 1990).

According to Huy & Takahashi (2018), a psychological contract is an unwritten set of expectations that exists between every member of an organisation and the numerous managers and others in that organisation. According to Gallup's State of the American Workplace Report (2017), employees need to work in an environment where there is mutual trust, appreciation, and respect for one another's efforts and achievements. Aikins (2017) has also highlighted the need for management to foster a culture of "joy at work" in terms of funding, operations, acknowledgement, and incentives to allow health care professionals to provide high-quality care as well as being motivated to enhance quality. When an organisation achieves its responsibility to an employee, from the employee's perspective, a psychological contract is said to have been satisfied, and it serves to enhance the social exchange element (Karagonlar, Eisenberger, & Aselage, 2016). Employees are content with their jobs when a

psychological contract is fulfilled Koomson and Mensah, (2022). According to research conducted in Ghana, psychological contract was contravened among medical doctors. Due to comparatively high hospital admission rates and a high doctor-to-patient ratio, these medical doctors who are relatively few, are overworked daily. They have a restricted number of health facilities and hospital beds to accommodate patients. Their peers in other parts of Ghana are not in the same situation (Sokey, 2018). They receive less credit for their work as they are paid on the same scale as their peers in other locations Greffier et al., (2015). These serious breaches are likely to result in them expressing unfavourable career development. They are also less likely to be good employee to the specific organization. The social exchange theory explains this issue and explains how it works to produce reciprocal duties between the employee and the employer (Blau, 1964). According to the theory, if the employer supports an employee, the employee will be more willing to help the employer in return. Conversely, if an employee's perceive that the company has done nothing for him or her, he or she will be less likely to develop positive behaviour in the workplace (Golden & Veiga, 2018). According to Koomson & Abigail 2020, psychological contract has a positive relationship with turnover intentions among the medical doctors of Ghana Health Sector which relates back and has a negative relationship with career development of the said group of employees.

Work Life Balance (WLB)

The concept of work–life balance and its challenges are not unique to surgeons, but professional duties make it difficult to achieve. Burnout, physically and emotional illnesses are all consequences of being solely focused on your profession. Furthermore, physician burnout can obstruct optimal patient treatment and result in high health-care expenses. Work-life balance was shown to be not just a cause of concern, but also a substantial source of discontent for participants. Furthermore, participants identified a definite link between work-life balance issues and withdrawal behaviours, such as turnover and non-genuine sick leave (Hughes el al., 2007). Doctors' health has a substantial impact on healthcare delivery and has a direct impact on patient care, including patient satisfaction, treatment adherence, and interpersonal elements of care. According to a research conducted by Kaliannan at el., (2016), a total of 158 completed surveys were obtained from practising doctors in both the public and private sectors using simple random sampling method. Given their professional commitments, mainly managing employers and patients' expectations, most doctors do not experience a balanced work-life integration. The findings also show that doctors who were born before the 1980s and have worked in the sector for longer perceive a better work-life balance, which leads to increased job satisfaction and subsequently better career development. Numerous elements, such as organisational culture, leadership, family, and individual issues, have been identified as obstacles to improved WLB and employee engagement. Better WLB can be achieved with the appropriate support system, which includes everything from work tools to corporate leadership and culture. A study conducted on 96 trainees and 41 trainers. Trainees comprised UK graduates and International Medical Graduates, across all stages of training in 6 specialties (general practice, medicine, obstetrics and gynaecology, psychiatry, radiology, surgery) and Foundation investigating the work–life balance of doctors in training in the UK from the perspectives of trainers and trainees reveal that work life balance are not balance. To cope with a demanding job while also completing their training requirements, trainees felt they had to prioritise work over family life and frequent transitions between work and home could disturb personal life (Rich at el., 2016). According to Rich et al. (2016), lack of work–life balance for medical doctors was caused not

only by the fact that work consumed up a lot of time, but also by the fact that it was stressful and challenging. Many medical students have previously worked in chaotic, disorganised training situations where service delivery took precedence above learning requirements and supervision was weak. According to the researcher in their research, medical doctors frequently changed workplaces, which could result in long commutes to work and make significant life events like buying a house or starting a family more difficult to plan or to concentrate. Medical practitioners felt they didn't have enough time or energy outside of work to deal with personal and family obligations. They consider outside work pressure as a primary contributor to a lack of work-life balance. Changes to the junior doctor contract in the UK have recently raised fears that high levels of emotional tiredness and burnout among doctors may lead to trainee doctors leaving the UK to work in other countries for a better career development, (Shanafelt et al., 2015). Previous research has analysed the impact of work–life balance on the psychological health of doctors and medical students. However, there is no evidence of how it may affect their training, learning, and career development. Eighty one percent (81%) of medical practitioners (MPs) worked between 40 and 50 hours per week (Wong et al., 2019). The study found no association between working hours and subfields, although there was a weak link between working hours and the number of seminars attended. In the study, more than 80% of MPs believed that the best measure of WLB would be obtaining satisfaction at work and at home, being able to meet personal and work duties, and ultimately keeping clear boundaries between roles at home and at work. Controlling when, where, and how they worked aided in obtaining WLB, according to a somewhat smaller percentage (69%) of respondents. As a result, Work-Life Balance (WLB) is correlated to Career Development.

Gender Differences (GD)

According to the data provided by the World Health Organization, 70% of the medical doctors around the world were men in 2006 and 58% in 2008 (Poz et al., 2006). Similar research reported the rate of FORL as 30% in the UK in 2017. Comparable results were also reported in some other countries such as Japan, Nordic and Middle Eastern countries (Baqi S et al., 2017). It is estimated that, in Turkey, only 13% of otorhinolaryngologists are women. In the recent years, this ratio is reported to be decreasing in favour of women (Kuzuca et al., 2010). Although the number of male and female doctors are close to each other in developed countries such as Canada, dominance of men is still observed in surgical branches (Natesan, 2018). Even in the early career planning, female medical students are more likely to face obstacles in making a choice for a surgical field (Roman, 2015). According to 2009 survey in the US, only 11.8% of the female medical school graduates chose surgical branches (Jolliff et al., 2011). According to another study conducted by Rohde et al., the most common reasons for women not to prefer surgical branches, i.e. orthopedics, are the lack of a good work-life balance, the need for high physical power and lack of mentors. The role of gender plays an important path in career development programs. According to Fritsch (2019), career paths and experiences, identified three distinct patterns of career development for female academics. These included an individualistic, output-driven pattern, a political-sustainable pattern, and an adaptive-flexible pattern. Bryson (2004) demonstrated that women in academia, as compared to men, are less likely to gain or perceive employment benefits due to fixed-term contracts. A study conducted in eight academic medical centers found that women perceived or anticipated more active discrimination than men (Cochran et al., 2013). In addition, one third of women believed that gender stereotypes were a barrier to their

career aspirations. In another study, female professors at a medical school described gender-based discrimination (e.g., being ignored) as a significant challenge to their career development (Pingleton et al., 2016). They reported coping with discrimination using techniques such as downplaying, keeping a distance, and using humor. A study by Terosky, O'Meara, and Campbell (2014) examined the role of women's sense of agency in their advancement from associate to full professor. Agency was constrained by several factors, including workload, interactions with colleagues, fit between personal values, and institutional promotion criteria. In contrast, perceived abilities, self-selected professional networks, and institutional support promoted a sense of agency in career advancement. We identified only one study on the role of gender for academic career development in a non-Western context (Alwazzan & Rees, 2016), a qualitative study with female medical educators in Saudi Arabia. Themes uncovered by this study included gender inequalities (e.g., women being overlooked for leadership positions), gender stereotypes (e.g., women being viewed as more likely to take part in shared leadership), and gendered specialties (e.g., surgery being dominated by men).

A number of studies focused on the role of gender for career development programs and interventions. For instance, Fried et al., (1996) investigated the outcomes of interventions to address gender-based career obstacles and improve career development at a medical school. They found that due to such interventions, the proportion of women retained and promoted increased significantly, and that more than half of the women and some men reported improvements in timeliness of promotions, reduced manifestations of gender bias, access to information needed for faculty development, and salary equity. Similarly, Helitzer et al. (2014) surveyed participants of three career development programs for female faculty in academic medicine. The study showed that leadership, negotiation, networking, and interpersonal skills improved through these programs. Larson and Chang, (2016) examined the effect of a career development program on retention, finding that female participants were significantly less likely to leave academic medicine and less likely to switch institutions after 10 years. Finally, several studies focus on gender differences in objective indicators of academic career success (e.g., salary, promotions). For instance, Kim (2015) found no evidence of less favourable outcomes for women in terms of salaries, career development.

Career Development (CD)

Career development is "the alignment of individual career planning and organizational career management processes to create an optimum match of individual and organizational needs", McLagan (1989). A career is defined as a person's lifetime sequence and combinations of work-related roles (Arthur, Hall, & Lawrence, 1989; Super, 1980). Vertical movement within an organization was once thought to be practically synonymous with career advancement (McDonald & Hite, 2005). Employees' careers were supposed to be predictable and secure under a tight hierarchical framework. However, the nature of employment and work context have been affected by a shifting economy and fast globalization during the last several decades (Lent, 2013). Organizations have pushed career development duties onto people in this regard, and scholars have suggested that career development research has lost ground in the HRD area (Hall, 2004; Savickas, 2011; Swanson & Holton, 2009). However, neither party should bear complete responsibility for career advancement. It should not be the responsibility of the employer or the individual; rather, it should be a collective endeavor (McDonald & Hite, 2018; McElroy & Weng, 2016). When individuals' career development

experiences and the organization's succession planning are matched, career development can have synergistic impacts, enhancing employee productivity (Gaffney, 2005). According to a cross-sectional study conducted on 1137 medical students (first and final year) and young doctors (interns and residents) from six medical colleges in Nepal completed a voluntary questionnaire. The result of the study mentioned that a sizable proportion of students and young doctors are unsure, implying that there is room for impact on their final career choice, given the evident need to improve the prominence of general practice. Surprisingly, the percentage of this undecided category was the lowest (22.9%). It was also reported that serving the ill, personal interest, and social prestige were considered as the most important factors determining career development choices. These characteristics were consistent across all groups, whether urban or rural, at various career phases, and when choosing between undergraduate and postgraduate education (Hayes et al., 2013). Work satisfaction was the most important factor in postgraduate career development choice, followed by personal interest. The study has also varied that the least important factors were family pressure, the same doctor in the family, books/films, and personal or family illness, which was constant across all groups. It was also mentioned in this study that background differences do not affect the career development choices. In a study conducted by (Haberal et al., 2021) on Otolaryngology in Turkey, female medical students are more likely to experience challenges while deciding career development choices on a surgical specialty. According to the study, it was also concluded that pursuing career development for a female medical doctor to become a specialist or a surgeon delays the age of maternity. In research conducted by Chang (2016), despite the ongoing turnover of medical doctors at all levels from academic medicine, women medical doctors who participated in career development programme were less likely to abandon the field in comparison to men. The research gives information to both men and women medical doctors and their institutions on the potential retention approaches in academic medicine. They can advance in rank, serve as role models, mentors, and expert teachers, and be appointed as leaders, all of which will help to improve career development in diversify leadership and boost organizational performance and financial return (Chang et al., 2016). Employee unhappiness and attrition continue to be aggravated by a lack of career development. In a study of 297 Australian HR specialists done earlier this year in Sydney, Melbourne, and Brisbane, 205 (69%) reported that one of the top three reasons they left their previous company was a lack of career development possibilities. In the same study, 152 people (51%) said that a lack of career possibilities in their previous employment had a direct impact on their job loyalty and engagement (Davies, 2018).

The Current Study

This systematic literature review examines evidence regarding the relationship between psychosocial factors and career development among medical doctors. The goal is to improve policies and practices, as well as to guide future research on the subject.

Methods

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) was followed in this study (Moher et al., 2015). The checklist of PRISMA is attached to Appendix 1.

Search Strategy

The phrase searching approach was used to search numerous academic databases. A search strategy was adopted to find journals about medical doctors' career development or variables associated to career development. The databases used were Medline, Scopus, and Cochrane Library. The database searches generated 86 records (7 from Cochrane Library, 35 from Scopus, and 44 from Medline), of which eight duplicates were removed. Six records were also discovered through manual searches of past reviews, significant journals, and key article reference lists. There were four terms used to do the search ---"Psychological Contract", "Work Life Balance", "Gender", and "Career Development" and few other related terms. Only titles and abstracts of publications published in English between 2016 and 2021 were included in the search. Articles discovered through database searches were screened for relevance to the objective. In addition, Google Scholar was used to search specified reference lists for new studies of significance.

Screening Process

Multimedia Appendix 1 presents a PRISMA flow diagram which illustrates the screening technique which was divided into two stages: title and abstract exclusion and full-text exclusion, as shown in Appendix 1. Data was extracted, and any differences were recorded on a pre-designed worksheet that related back to the desired outcome. To ensure methodological accuracy in the review process, all included studies were evaluated for quality for second time. The articles chosen for the full-text screening had to fulfill the following inclusion criteria: (1) original, peer-reviewed, full-text article written in English; (2) the article's topic concerned Psychological Contract, Work Life Balance, Gender; (3) informants of the study were medical doctors; and (4) the study's focus was career development in the context of the role of informal education agents. Following the study selection process, five articles were included in the review. The following data were extracted from these articles:

- Title
- Author(s)
- Publication title
- Year of publication
- Sample and population
- Research area or discipline
- Method of data collection
- Method of data analysis
- Psychosocial Factors and Medical Doctors
- Outcome of the study

Data Analysis

The number of articles included in this review is relatively small. The analysis was conducted by assessing the variables of career development by examining the components such as psychological contract, work life balance, gender used as an intervention to measure the relationship of towards career development among medical doctors.

Results

Study Characteristics

A total of 86 articles were recorded after subtracting overlapping articles. All articles were evaluated at the title and abstract levels. A total of 52 articles were excluded because their titles and abstracts indicated they were not relevant to the topic by clarifying the variables

and their relationship towards career development among medical doctors. According to predefined inclusion criteria, this left 32 articles to be assessed for eligibility (at the overall text level). A total of 27 articles were excluded for the following reasons: unoriginal research (n = 8), failing to focus on career development (n = 12), unrelated population (n = 7), inappropriate study duration (n = 1), and subject not discussed in relation to career development (n = 1).

Detailed characteristics of the included articles (n = 3) the three articles, one studied a population sample of medical doctors from Ireland, female physicians from Japan and medical doctors from Korea. One of the three conducted the study via a cross-sectional survey approach, one was quantitative studies, and the last one was qualitative study. In addition, one study was conducted involving non-consultant doctors in Ireland. One study involved 228 female medical doctors whose academic rank was assistant professor or higher in departments of basic sciences, Japan. One study involved ten Korean medicine female doctors in their 30s participated in the study. Studies were analyzed with an emphasis on efficacy and the significance of elements in the scope of informal education agents. Details are provided in Figure 1 as shown below.

Of the three research articles, one article discussed the psychological contract's content, as well as the extent to which breaches and violations of the psychological contract predict job satisfaction and well-being. Another used existing instruments, and another used the in-depth face-to-face interview was conducted with a semi structured interview guide. One article discussed the breaches of the psychological contract on the job satisfaction and wellbeing of doctors in Ireland (Collins et all., 2020).

One article discussed work-life balance in female physicians in Japan (Yamazaki, et al.,2017) and the last one discussed the impact of gender on the career development of female traditional Korean medicine doctors.

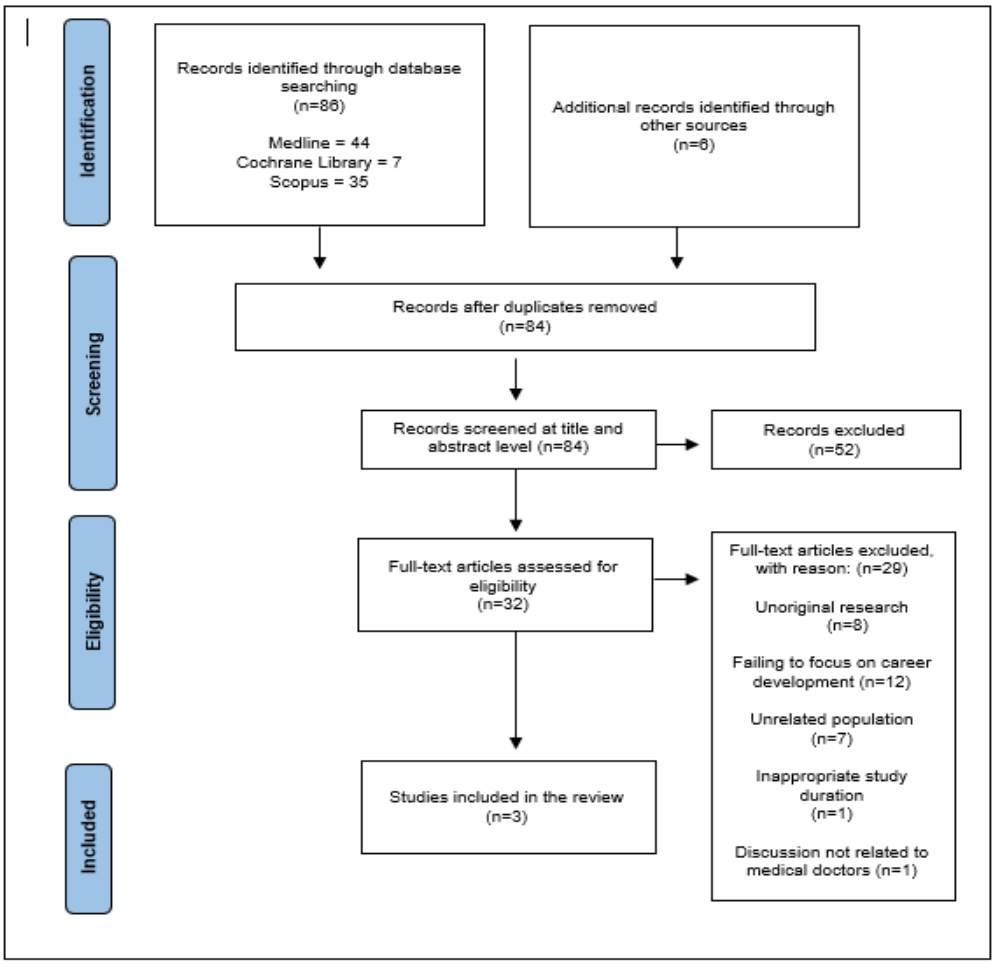

Figure 1. PRISMA 2009 flow diagram.

Origin

Of the three articles reviewed, one study was conducted in Ireland, and the second study was conducted in Japan and the last one was conducted in Korea. In the first stage in the screening process, findings showed studies related to career development among doctors was done in various countries, such as in America, Africa, China, Japan, Pakistan, and Sweden. However, these studies did not meet the criteria set. For example, the study populations involved medical students, and some also discussed career development in the scope of remuneration, such as salary increment, facility for doctors and others.

Interventions

Of the three research articles, the studies discussed the intervention of other variables just as job satisfaction, and wellbeing of doctors towards career development. The need to explore the aspects of other variables is relevant and significant since the average medical respondent is more interested and comfortable to respond as it is more related and are looking for the outcomes.

Participants

Medical Doctors/Physicians

The study used a group of doctors working in hospitals. More specifically, 340 non-consultant doctors in Ireland, 228 female medical doctors whose academic rank was assistant professor

or higher from Japan and 30 Korean medical doctors has completed a survey. Finally, only 363 participants returned the survey form, giving a response rate of 60.7%.

Outcome Measures

The study in Ireland discussed findings the relationship between job satisfaction, well-being, and doctors' psychological contracts in Ireland. It focuses on areas of relevance to doctors in their psychological contracts, as well as the extent to which they believe their employers have broken these contracts. This study shows a substantial contradiction between what doctors want and what they get, providing insight into the job-related expectations of non-consultant doctors in Ireland. It pinpoints particular areas where expectations aren't being met, such as organizational support and HR management, and emphasizes the need for more training and possibilities for promotion. Finally, this research demonstrates that discrepancies between expectations and reality have a detrimental impact on doctors' job satisfaction and well-being. In the study conducted in Japan, the reasons for the afterthoughts that female physicians with children expressed while surrendering a full-time clinical practice were not investigated. Future research is needed to determine possible factors, such as responsibility over choice. From a Japanese cultural perspective, this article looked at female physicians' challenges in balancing duties as a good mother and a good doctor. Women's concerns in Japan are viewed differently than they are in the West, and these issues should be addressed in their native cultural context. Regardless of social and cultural barriers, medical educators and policymakers should respect future medical school candidates' interests and curiosity, providing guidance and motivation for a student's ultimate career path which are so important for long-term satisfaction and career retention.

The findings of the last research articles involve Korean medical (KM) doctors reveals a strong traditional gender norm directly or indirectly impair the hiring process, according to a study. Female KM doctors focused on pediatricians, dermatology, and other areas of specialized care, whereas their male counterparts worked in acupuncture and moxibustion departments, rehabilitation, and general KM clinics. Participants in the study tended to keep their career goals; however, significant life events, such as motherhood, hindered their ability to do so. Female KM doctors upheld materialism ideals at home, forcing them to follow gender norms that were set in stone. Gender also had an impact on the patient–doctor relationship. Female KM practitioners were able to connect with patients who were also female.

Study Quality

Studies related to career development among medical doctors were conducted using data analysis techniques that were coded and entered into the spreadsheets for analysis. Tables and frequency percentages were used to analyze responses from participants related to the variables which related back to career development. In addition, the data obtained from quantitative research methods were accessed using SPSS software was used to calculate descriptive statistics. A linear regression analysis was used to examine the association between breaches in the psychological contract and job satisfaction and wellness. The significance level was set at p 0.05.

In the second article to investigate the relationships between having a child and other characteristics, Chi-square tests were used. Age, on the other hand, was left out of the

research since older women were more likely than younger women to already have children. Specialty was also left out of the analysis. Because the specialties were so broad, each category's sample size would be too small to be statistically significant, and in certain situations, may identify a participant. The binary logistic regression model was employed with dependent variables to account for childbearing experience and afterthoughts leaving full-time clinical practice to adjust for clinical experience. The data obtained from qualitative research methods were analyzed using The Strauss and Corbin constant comparative analysis (CCA) approach. The transcribed data line by line, this strategy was chosen to develop a modified version by systematically interweaving the perspectives of the researchers and study participants. For analysis, the statistical software package SPSS version 20 was adopted. Statistical significance was defined as a P value of less than 0.05.

Discussion

Principal Findings

The purpose of this systematic survey was to identify studies that have investigated the influence of related variables and its relationship toward career development among medical doctors. Three articles directly or indirectly related to the matter were identified. Of the three articles, one article focused on psychological contract and its relationship towards career development, one on work life balance and its relationship toward career development and the last article is on gender and its relationship towards career development. Overall, the purposes of the articles were identified, and all the variables has demonstrated the relationships towards career development. After research, interpretation, and evaluation, the outcome on the variables and career development among medical doctors' involvement are with encouraging results with an increase in knowledge. The has revealed that there is a significant or clear mismatch of what a doctor wants and what they receive. For an example choosing between being a good mother and being a competent doctor is a difficult task for female doctors. With lack of guidance and motivation, it is staring to become a tough decision for female medical student to decide their career path.

Limitations Future Studies

This research has certain drawbacks. To begin, there is a risk of self-selection bias in sampling, as with any online opt-in questionnaire. People are more inclined to complete a survey if they have a strong opinion or problem to express about the topic at hand, which is especially true when it comes to discussing one's employment. Because of the sampling bias, there may be more negative sentiments stated than there would be among the overall population of non-consultant doctors. Another limitation was Gender. Gander is a sensitive topic in all male-dominated sectors, including medicine, therefore the participants could have been prone to offering favourable responses. However, some of these responses led to significant findings in this qualitative study, such as the participants' continual denial of gender as a career impediment.

Conclusion

Overall, the studies reveal the negative outcome of mismatching the need and the supply among medical doctors. To begin, respondents were classified as female and physicians based on their feminine names and medical degrees, as well as their academic rankings, which were derived from the university's website. As a result, if a first name could be applied to either gender, surveys may have been distributed to a few male physicians.

However, because the survey's unique focus on women was clearly stated in the questionnaire, male doctors were not expected to respond, decreasing the number of respondents. The results of this study were done in other countries, thus its applicability to other nations is restricted due to differences in culture and educational systems. All of the participants in this study were assistant professors or higher. As a result, responders were career survivors who were able to balance work and personal life. In conclusion, there are several opportunities for future research to consider populations in other localities. For example, most Asian countries still need further research. There are also challenges in terms of research methodology that could be addressed in future studies. A qualitative assessment could elaborate on the role of studied variables and the relationship towards career development among medical doctors. This research significantly contributes to the existing body of knowledge by providing a theory-driven understanding of the relationship between psychosocial factors and career development among medical doctors. By integrating psychological contract theory, work-life balance models, and gender role perspectives, this study advances the discourse on how career progression is influenced by these elements in a highly demanding profession. The findings highlight the disparity between expectations and reality in medical career pathways, offering insights that could shape future organizational policies and interventions. Contextually, this study provides an evidence-based framework that can be utilized by healthcare institutions, policymakers, and educators to design strategies that foster sustainable career growth for medical professionals. The study also bridges the gap between theoretical models and real-world applications, emphasizing the need for tailored support mechanisms that address the unique challenges faced by medical doctors in different cultural and institutional settings.

References

Arthur, M. B., Arthur, M. B., Hall, D. T., & Lawrence, B. S. (Eds.). (1989). *Handbook of career theory*. Cambridge University Press.

Argyris, C. (1962). *Interpersonal competence and organizational effectiveness.* Dorsey Press.

Aikins, A. D. E. G., & Koram, K. (2017). Health and healthcare in Ghana, 1957–2017. *The economy of Ghana sixty years after independence*, *365*(10.1093).

Alwazzan, L., & Rees, C. E. (2016). Women in medical education: views and experiences from the Kingdom of Saudi Arabia. *Medical education*, *50*(8), 852-865.

Baqi, S., Albalbeesi, A., Iftikhar, S., Baig-Ansari, N., Alanazi, M., & Alanazi, A. (2017). Perceptions of gender equality, work environment, support and social issues for women doctors at a university hospital in Riyadh, Kingdom of Saudi Arabia. *PloS one*, *12*(10), e0186896.

Bryson, J. M. (2004). What to do when stakeholders matter: stakeholder identification and analysis techniques. *Public management review*, *6*(1), 21-53.

Budget Ministry of Finance Malaysia (2020). Bank Negara Malaysia. https://www.bnm.gov.my/-/download-the-2020-budget-speech-by-finance-minister-of-malaysia

Chang, H. (2016). *Autoethnography as method*. Routledge.

Chang, Y. Y. (2016). Multilevel transformational leadership and management innovation: Intermediate linkage evidence. *Leadership & Organization Development Journal*, *37*(2), 265-288.

Cochran, D. M., Fallon, D., Hill, M., & Frazier, J. A. (2013). The role of oxytocin in psychiatric disorders: a review of biological and therapeutic research findings. *Harvard review of psychiatry*, *21*(5), 219-247.

Choi, Y., Kim, J., & Kim, S. (2015). Career development and school success in adolescents: The role of career interventions. *The Career Development Quarterly*, *63*(2), 171-186.

Collins, A., & Beauregard, A. (2020). The effect of breaches of the psychological contract on the job satisfaction and wellbeing of doctors in Ireland: a quantitative study. *Human resources for health*, *18*(1), 89. https://doi.org/10.1186/s12960-020-00534-3

Dadi, V. (2012). Black British psychological contract. *International Journal of Humanities and Social Science*, *2*(24), 59-70.

Davis, A. P., Grondin, C. J., Lennon-Hopkins, K., Saraceni-Richards, C., Sciaky, D., King, B. L., ... & Mattingly, C. J. (2015). The Comparative Toxicogenomics Database's 10th year anniversary: update 2015. *Nucleic acids research*, *43*(D1), D914-D920.

Davies, G., Mete, M., & Whelan, S. (2018). When employer brand image aids employee satisfaction and engagement. *Journal of Organizational Effectiveness: People and Performance*, *5*(1), 64-80.

Fried, L. P., Bandeen-Roche, K., Williamson, J. D., Prasada-Rao, P., Chee, E., Tepper, S., & Rubin, G. S. (1996). Functional decline in older adults: expanding methods of ascertainment. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*, *51*(5), M206-M214.

Fritsch, M., Sorgner, A., & Wyrwich, M. (2019). Self-employment and well-being across institutional contexts. *Journal of Business Venturing*, *34*(6), 105946.

Flynn, R., Scott, S. D., Rotter, T., & Hartfield, D. (2017). The potential for nurses to contribute to and lead improvement science in health care. Journal of Advanced Nursing, 73(1), 97-107. http://dx.doi.org/10.1111/jan.13164

Gaffney, S. (2005). Career development as a retention and succession planning tool. *The Journal for Quality and Participation*, *28*(3), 7.

Gallup, I. (2017). State of the American workplace report. *State of the American Workplace*, 1-214.

Greffier, J., Macri, F., Larbi, A., Fernandez, A., Khasanova, E., Pereira, F., ... & Beregi, J. P. (2015). Dose reduction with iterative reconstruction: optimization of CT protocols in clinical practice. *Diagnostic and interventional imaging*, *96*(5), 477-486.

Golden, T. D., & Veiga, J. F. (2018). Self-estrangement's toll on job performance: The pivotal role of social exchange relationships with coworkers. *Journal of Management*, *44*(4), 1573-1597.

Haberal Can, İ., İncesulu, A., Eyigör, H., Şenol, Y., & Kara, C. O. (2021). Perception of male otolaryngologists on gender discrimination: a comparative study. *European Archives of Oto-Rhino-Laryngology*, *278*, 1257-1264.

Hall, D. T. (2004). The protean career: A quarter-century journey. *Journal of vocational behavior*, *65*(1), 1-13.

Hayes, S. C., Levin, M. E., Plumb-Vilardaga, J., Villatte, J. L., & Pistorello, J. (2013). Acceptance and commitment therapy and contextual behavioral science: Examining the progress of a distinctive model of behavioral and cognitive therapy. *Behavior therapy*, *44*(2), 180-198.

Helitzer, D. L., Newbill, S. L., Morahan, P. S., Magrane, D., Cardinali, G., Wu, C. C., & Chang, S. (2014). Perceptions of skill development of participants in three national career

development programs for women faculty in academic medicine. *Academic Medicine*, *89*(6), 896-903.

Herriot, P., & Pemberton, C. (1996). Contracting careers. *Human relations*, *49*(6), 757-790.

Holton III, E. F., Wilson, L. S., & Bates, R. A. (2009). Toward development of a generalized instrument to measure andragogy. *Human Resource Development Quarterly*, *20*(2), 169-193.

Hughes, T. P., Rodrigues, M. J., Bellwood, D. R., Ceccarelli, D., Hoegh-Guldberg, O., McCook, L., ... & Willis, B. (2007). Phase shifts, herbivory, and the resilience of coral reefs to climate change. *Current biology*, *17*(4), 360-365.

Jolliff, B. L., Wiseman, S. A., Lawrence, S. J., Tran, T. N., Robinson, M. S., Sato, H., ... & Paige, D. A. (2011). Non-mare silicic volcanism on the lunar farside at Compton–Belkovich. *Nature Geoscience*, *4*(8), 566-571.

Kaliannan, B., & Pasupureddi, V. S. R. (2016, May). A low power charge mode compressive acquisition of multichannel EEG signals. In *2016 IEEE International Symposium on Circuits and Systems (ISCAS)* (pp. 518-521). IEEE.

Karagonlar, G., Eisenberger, R., & Aselage, J. (2016). Reciprocation wary employees discount psychological contract fulfillment. *Journal of Organizational Behavior*, *37*(1), 23-40.

Kieserling, A. (2019). Blau (1964): exchange and power in social life. *Schlüsselwerke der Netzwerkforschung*, 51-54.

Koomson, S., Mensah, A. O., & Koomson, E. (2022). Unmet expectations and job involvement among doctors: does individual conscientiousness play a mitigating role?. *British Journal of Healthcare Management*, *28*(12), 1-7.

Koomson, S., & Opoku Mensah, A. (2020). Mediating effect of job satisfaction in the relationship between psychological contract breach and organisational citizenship behaviour. *Journal of Psychology and Behavioural Science*, *8*(2), 19-26.

Kuzuca, I. G., & Arda, B. (2010). What can we say about gender discrimination in medicine? A limited research from Turkey. *Ankara Üniversitesi Tıp Fakültesi Mecmuası*, *63*(1), 1-8.

Larson, D., & Chang, V. (2016). A review and future direction of agile, business intelligence, analytics and data science. *International Journal of Information Management*, *36*(5), 700-710.

Lent, R. W. (2013). Career-life preparedness: Revisiting career planning and adjustment in the new workplace. *The career development quarterly*, *61*(1), 2-14.

Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., ... & Prisma-P Group. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic reviews*, *4*, 1-9.

McLagan, P. (1989). Models for HRD Practice (Alexandria, VA. *American Society for Training and Development*, *6*.

Malaysian Investment Development Authority, 2020, https://www.mida.gov.my/wp-content/uploads/2021/03/MIDA-IPR-2020_FINAL_March4.pdf

Malaysian Healthcare Conference, 2019, Kingsley Strategic Institute for Asia Pacific. https://kasi.asia/wp-content/uploads/2022/01/ Malaysian-Healthcare-Conference-2019-Proceedings-Report.pdf

Molesky-Poz, J. (2006). *Contemporary Maya spirituality: The ancient ways are not lost*. University of Texas Press.

McDonald, K. S., & Hite, L. M. (2018). Conceptualizing and creating sustainable careers. *Human Resource Development Review*, *17*(4), 349-372.

McElroy, J. C., & Weng, Q. (2016). The connections between careers and organizations in the new career era: Questions answered, questions raised. *Journal of Career development*, *43*(1), 3-10.

Natesan, P., Batley, N. J., Bakhti, R., & El-Doueihi, P. Z. (2018). Challenges in measuring ACGME competencies: considerations for milestones. *International journal of emergency medicine*, *11*, 1-6.

Pingleton, J. A. (2016). Finding Safe Harbor: Eliminating the Gap in Colorado's Human Trafficking Laws. *U. Colo. L. Rev.*, *87*, 257.

Rich, E. L., & Wallis, J. D. (2016). Decoding subjective decisions from orbitofrontal cortex. *Nature neuroscience*, *19*(7), 973-980.

Rousseau, D. M. (1989). Psychological and implied contracts in organizations. *Employee responsibilities and rights journal*, *2*, 121-139.

Rousseau, D. M. (1990). New hire perceptions of their own and their employer's obligations: A study of psychological contracts. *Journal of organizational behavior*, *11*(5), 389-400.

Rousseau, D. M. (1995). Psychological contracts in organizations: Understanding written and unwritten agreements. *Thousand Oakes*.

Roman, H. (2015). "Clinical Outcome After Radical Excision of Moderate-severe Endometriosis With or Without Bowel Resection and Reanastomosis: A Prospective Cohort Study" by Meuleman et al. Ann Surg. 2013; April 10—The Gold Rush: Are We There Yet?. *Annals of Surgery*, *261*(5), e133-e134.

Savickas, M. L. (2011). Constructing careers: Actor, agent, and author. *Journal of Employment Counseling*, *48*(4), 179-181.

Shanafelt, T. D., Hasan, O., Dyrbye, L. N., Sinsky, C., Satele, D., Sloan, J., & West, C. P. (2015, December). Changes in burnout and satisfaction with work-life balance in physicians and the general US working population between 2011 and 2014. In *Mayo clinic proceedings* (Vol. 90, No. 12, pp. 1600-1613). Elsevier.

Schein, E. H. (1990). Organizational Culture: What it is and How to Change it. In *Human resource management in international firms: Change, globalization, innovation* (pp. 56-82). London: Palgrave Macmillan UK.

Super, D. E. (1980). A life-span, life-space approach to career development. *Journal of vocational behavior*, *16*(3), 282-298.

Sokey, P. P., Adjei, E., & Ankrah, E. (2018). Media use for health information dissemination to rural communities by the Ghana Health Service. *Journal of Information Science, Systems and Technology*, *2*(1), 1-18.

Terosky, A. L., O'Meara, K., & Campbell, C. M. (2014). Enabling possibility: Women associate professors' sense of agency in career advancement. *Journal of Diversity in Higher Education*, *7*(1), 58.

Tran Huy, P., & Takahashi, K. (2018). Determinants of psychological contract breach: An empirical study of Vietnamese employees. *Management Research Review*, *41*(1), 29-45.

Wong, C. H., Siah, K. W., & Lo, A. W. (2019). Estimation of clinical trial success rates and related parameters. *Biostatistics*, *20*(2), 273-286.

Yamazaki, Y., Uka, T., & Marui, E. (2017). Professional fulfillment and parenting work-life balance in female physicians in Basic Sciences and medical research: a nationwide cross-sectional survey of all 80 medical schools in Japan. *Human resources for health*, *15*(1), 65. https://doi.org/10.1186/s12960-017-0241-0