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THE PREVALENCE OF BURNOUT AMONG CHIROPRACTORS IN SOUTH AFRICA

A dissertation presented to the

Faculty of Health Science

at the

University of Johannesburg

As a partial fulfillment of the requirements for the Master's degree in Chiropractic



2019

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Date

DECLARATION

I, Francis Collatz, declare that this dissertation represents my own work, both in conception and execution. It is being submitted for the degree of Master of Technology at the University of Johannesburg.

It has not been submitted previously for any degree or examination to any University or Technikon.

Signature of Candidate: _____

On this _____ day of _____ 2019



DEDICATION

I dedicate this research to the memory of Vivian Botha.

You will forever live through us.



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To my supervisor, Dr Malany Moodley: thank you for your guidance, patience, effort and time spent revising my work. I could not have done this without you.

To my parents, brothers and sister-in-law: thank you for your never-ending love, support and motivation. Thank you for giving me the opportunity to follow my dreams and passions. Thank you for drying up all the tears and for always believing in me. Will and Melanie, thank you for the advice and help throughout the last seven years. Karl, thank you for always making me laugh and for reminding me to dance through the storms.

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Jurie, thank you for always motivating me and keeping me healthy and happy. You inspire me to become the best version of myself. Thank you for your love and support.

Finally, to Dalmari McQueen: thank you for your assistance and expertise. I appreciate all your hard work.



ABSTRACT

Aim: The aim of this study was to determine the prevalence of burnout among doctors of chiropractic in South Africa and compare these results with burnout data from other healthcare professionals and chiropractors from other countries.

Method: This investigative qualitative study applied cross-sectional data collection using nonprobability convenience sampling. The Chiropractic Association of South Africa provided contact information of all the registered chiropractors on their members register. Participants included in the study were qualified and registered chiropractors whose primary occupation involved the chiropractic profession. The Maslach Burnout Inventory – Human Services Survey for Medical Personnel (MBIHSS (MP)) and a 20-question demographic questionnaire were emailed to a random sample of registered chiropractors.

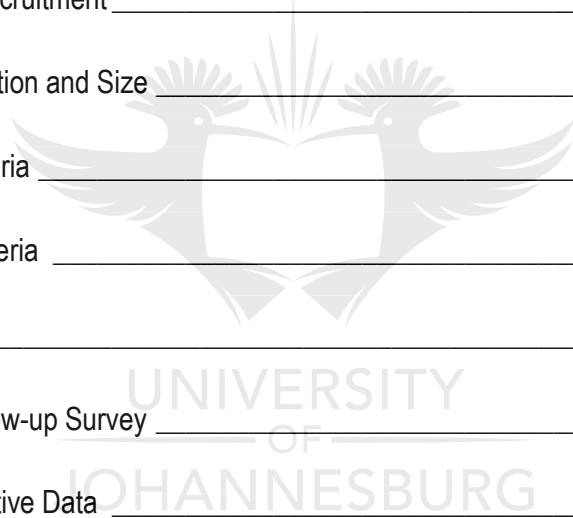
Results: The survey return rate was 11.3%. Of the 700 surveys sent out, 83 surveys were returned to the researcher. Only data from 79 surveys was useable. Of those surveyed, 12.7% reported a high level of emotional exhaustion, while 36.7% reported a moderate level. A further 7.6% reported a moderate level of depersonalisation. In total, two participants (2.5%) met the criteria for severe burnout and two participants (2.5%) for high levels of burnout. The majority, 71 participants (90%), had low level of burnout and 94% of chiropractors scored outstanding levels of personal accomplishment. Statistically significant associations were found between burnout subdivisions and the effect of time dedicated to administrative tasks, the number of hours worked per week, the public's opinion on chiropractors, the varying chiropractic philosophical perspectives and the consequence of suffering from a work-related injury. When comparing the data from this study with data from other healthcare professionals who used the MBI-HSS (MP) and with chiropractors from other countries, the rate of burnout among chiropractors in South Africa is significantly low.

Conclusion: The representatives of chiropractors in this study had encouraging scores in all three subdivisions of burnout. They revealed lower emotional exhaustion and depersonalisation levels and higher personal accomplishment levels than other medical professionals such as nurses, dentists, medical specialists and physical and occupational therapists. The sample of chiropractors had better scores in all subdivisions than the chiropractors in America who have been evaluated using the MBIHSS (MP).

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CHAPTER 1: INTRODUCTION

1.1 Problem Statement

Governmental and mainstream healthcare organisations such as the Allied Health Professions Council of South Africa and the World Health Organisation deem chiropractic to be one of the largest complementary and alternative medicine professions in South Africa (Chapman-Smith and Cleveland, 2005). Although the chiropractic profession can be exceptionally meaningful and selfgratifying, recent research suggests that it is also laborious and stressful. The cumulative effects of stress in chiropractic profession often result in a condition known as burnout. Burnout is a “psychological syndrome” that involves emotional exhaustion and exhaustion by one’s work (Felton, 1998).

Doctors of chiropractic face similar stress factors and challenges as other medical professionals (Busse, Jim and Jacobs, 2011), as well as profession-specific stressors, which include philosophical differences, adverse public perception, negative perception from other healthcare professionals and increased competition, both internally and externally (Stanley, 2007). A combination of common healthcare challenges, with specific chiropractic stressors and constant chronic work-related stressors of caring for individuals, may put doctors of chiropractic at risk of developing burnout.

Burnout in chiropractors can lead to the presentation of unprofessionalism, poor job performance, reduced organisational commitment and involvement, attrition and absenteeism, which has an effect on patient-practitioner relationships (Williams, 2011). Further research is needed to fully understand the prevalence of burnout and the possible influence it may have on the chiropractic profession.

1.2 Aim of the Study

The aim of this study was to determine the prevalence of burnout within the chiropractic profession in South Africa and identify precipitating factors that lead to burnout among chiropractors.

1.3 Possible Outcomes of This Study

The possible outcome of this study could be the identification of precipitating factors of burnout among chiropractors in South Africa, which will in turn help generate awareness and methods on improving the quality of professional life for doctors of chiropractic. The results can be compared to practitioners from other healthcare professions as well as chiropractors from other countries.



CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Burnout within the chiropractic profession can have an adverse effect on patient-practitioner relationships (Williams, 2011) and result in increased organisation expenditure and increased negative perception from the public and other healthcare professionals (Johnson and Green, 2012). Burnout among doctors of chiropractic can also lead to individual depression, which in turn can negatively affect personal relationships and work and home life (Stanley, 2007). Although burnout research has been done amongst doctors of chiropractic in America and Canada, no formal study or similar study has been done on burnout amongst doctors of chiropractors in South Africa. Local studies on burnout have been done on other healthcare professionals such as nurses, dentists and general practitioners, who are all seen as mainstream medical professionals.

The proposed study will not only determine the prevalence of burnout among doctors of chiropractic within South Africa, but it also enable comparison of burnout of chiropractors in South African with burnout amongst American and/or Canadian chiropractors (Williams, Pinto-Zipp, Cahill and Parasher, 2013). It will also allow comparison of burnout results between different healthcare professions.

2.2 Burnout

Healthcare professionals face copious amounts of stressors within their everyday work. These individuals are continuously exposed to unfavourable environments. Burnout is largely problematic for individuals who are at the forefront of their profession. The effect of this condition on healthcare practitioners is important given that these individuals' actions are directly linked to the mortality and morbidity of the patients they treat. In the 1970's, when burnout of healthcare professionals first appeared, many in the healthcare profession denied that it existed and dismissed its importance (Maslach, 2017). It is only in the last few decades that burnout has become more common among

healthcare practitioners – or at least more regularly recognised. Subsequent studies show that it is 15% more likely that healthcare practitioners (both qualified practitioners and those in training) will experience burnout than professionals in any other fields (Cox, 2017).

Burnout is defined as physical or emotional exhaustion and/or loss of motivation, usually as a result of prolonged stress or frustration (Felton, 1998). Burnout involves loss of passion for work, feelings of pessimism, decreased sense of personal accomplishment and reduced productivity (Busse et al., 2011). Burnout can also be characterised by a decline in one's dignity, values, will and spirit. Healthcare individuals experiencing burnout are overwhelmed, unmotivated and unable to cope.

The World Health Report of 2006 states that work-related burnout and its outcomes are factors that contribute to healthcare workers' intentions to leave their professions (World Health Organisation, 2006). Healthcare worker burnout appears to be an economic liability to the national health systems and organisations that are struggling to maintain sufficient staff numbers to provide health services to those in need (Alameddine, Baumann, Laporte and Deber, 2012; Pomaki, Franche, Murray, Khushrushahi and Lampinen, 2012; Stansfeld, Shipley, Head and Fuhrer, 2012). It is important to evaluate levels of burnout among chiropractors to determine the consequences thereof on retention rates, attrition rates from the chiropractic profession and burnout effects on international migration.

2.2.1 Review of Previous Burnout Research

A. Burnout in Other Medical Personnel

Burnout syndrome is typically found in healthcare professionals and most commonly measured using the Maslach Burnout Inventory (MBI). The MBI has three subscales corresponding to each burnout dimension: Five items measure depersonalisation, eight items measure personal accomplishment and nine items measure emotional exhaustion. Previous studies have identified that emotional exhaustion is the hallmark of burnout (Maslach and Leiter, 2016).

The MBI has been used to determine the prevalence of burnout of different medical professions across the world. It has been mostly used on nurses; several studies indicate high levels of burnout among nurses, with very high levels of emotional exhaustion, low to moderate levels of depersonalisation and mostly high levels of personal accomplishment. High levels of emotional exhaustion were associated with high workloads, intragroup conflict and skill underutilisation. Depersonalisation is associated with variation in workload and personal accomplishment with job satisfaction, perceived control and responsibility for peoples' lives (Elshaer, Moustafa, Aiad and Ramadan, 2017). According to a study done by Arrogante and Aparicio-Zaldivar (2017), on burnout of nurses in Madrid, critical healthcare professional nurses who scored high in personal accomplishment and resilience had better mental health, confirming the finding obtained by Mealer, Jones, Newman, McFann, Rothbaum and Moss (2012) that resilience minimises the negative burnout effect on mental health in nurses. Burnout syndrome has serious consequences on health and high levels of the three burnout dimensions are associated with not only mental dysfunction but also has physical consequences (Arrogante and Aparicio-Zaldivar, 2017).

High levels of burnout in nurses have also been identified in the United States, Canada, Germany, Japan, Russia and Armenia. According to a study done by Poghosyan, Aiken and Douglas (2009), of the above-named countries, the United States and Canada had high levels of burnout among nurses due to their short average length of stay in hospitals. These nurses do the same amount of work but in a shorter period, which leads to more rapid cycles of admission and discharge, which in turn places a significant burden on nurses. High levels of burnout in Japan is associated with poor physician-nurse relations and young and inexperienced nurses in hospitals. Nurse burnout has also been observed in countries with different types of health services organisation, resources and financing (Poghosyan et al., 2009).

Burnout studies have also been done on medical specialists, such as anaesthesiologists, paediatricians, orthopaedic surgeons and trauma and reconstructive surgeons. High burnout was identified in all the above-mentioned medical professions. These specialists also have low levels of personal accomplishment compared to the studies done on nurses. Factors associated with burnout in these studies include medical errors, sleep deprivation, absence of gratitude from their seniors

and patients, absence from mandatory rest periods, nights on call per week, absence of research and losing temper during operations. Other factors that contribute to low levels of personal accomplishment include irritation during operations, due to poor coordination of assistants, delays by companies in providing operative devices and slow movement of instrument nurses. Intraoperative irritability was found to be significantly correlated with burnout (Zheng, Shao and Zhou, 2017).

According to a study done by Campbell, Prochazka, Yamashita and Gopal (2010), on orthopaedic and trauma surgeons in France, burnout may be more common among the residents than the more senior physicians. Seventy-eight percent of residents experienced a minimum of one episode of burnout during their residency and, of those, 49% remained burned out after the end of their residency (Campbell, Prochazka, Yamashita and Gopal, 2010). Higher levels of burnout among residents can be due to physicians being educated to be clinicians first, with the role of team member, manager or leader being secondary. These physicians tend to view the purpose of a hospital as primarily to support their clinical work, which leads to a disconnection between expectations and the realities of the need to work with patients and coworkers who have different views of how the hospital should operate, making burnout inevitable (Montgomery, Todorova, Baban and Panagopoulou, 2013).

Shanafelt et al (2014) established that the prevalence of burnout among physicians grew over time, from 40% in 2009 to 53% in 2014. The increase in burnout among physicians globally will continue because of fewer resources, increased demand and reduced budgets (Shanafelt, Kaups, Nelson, Satele, Sloan and Oreskovich, 2014).

Burnout syndrome may lead to grave consequences, including irritation, substance abuse, depression, disruptive behaviours and the most serious consequence: suicidal ideation (Dimou, Eckelbarger and Riall, 2016).

B. Burnout in Chiropractors

Only two other studies have been done on the prevalence of burnout among chiropractors. Both studies were done on chiropractors within the United States of America. The first study was done by Williams et al in August 2012 on chiropractors in New Jersey, New York and Pennsylvania. The researcher requested e-mail contact information from the chiropractic governing body of each state. Chiropractors were included in the study if at the time they were 20 years or older, licensed to practice as a chiropractor and their primary occupation encompassed the chiropractic profession, including academic, clinical, administrative and research occupations. An e-mail, which included a hyperlink to the online survey, was sent out to 772 chiropractors. The survey contained the MBI-HSS, 20 demographic questions and one open-ended question. From the 772 surveys sent out, only 90 surveys were returned and used for the study (Williams et al., 2013).

The results show that two participants had high, 51% moderate and 47% low levels of burnout. In the unrestricted question, participants were asked if they had symptoms of burnout. Eighty percent of participants did not recognise themselves as having symptoms of burnout. When looking at the subdivisions, 18% had high, 40% moderate and 42% low levels of emotional exhaustion. High emotional exhaustion was related to primary practice and acute and chronic setting. Those participants who identified themselves as having symptoms of burnout had significantly high levels of emotional exhaustion and depersonalisation and low levels of personal accomplishment. The study showed that even though chiropractors have high levels of emotional exhaustion, this does not appear to affect their personal accomplishment and the way they treat their patients (Williams, Zipp, Cahill and Parasher, 2013).

The results showed that 7% had high, 16% moderate and 78% low levels of depersonalisation. This factor was negatively related to time spent on administrative duties. Finally, 72% of the participants had high levels and 7% low levels of personal accomplishment. Participants with high levels of personal accomplishment typically worked in a wellness-based setting and spent less time on administrative duties (Williams, Zipp, Cahill and Parasher, 2013).

Burnout is influenced by stressors such as negative perception of chiropractors by the public, workrelated injury and different philosophical perspectives within the chiropractic profession. Nevertheless, the study found that prevalence of burnout within the chiropractic profession is exceptionally low. Chiropractors' burnout scores were lower than the norm for emotional exhaustion and depersonalisation, while the personal accomplishment scores were higher than the norm. Chiropractic burnout scores were lower than those found in physiotherapy, medicine and nursing. Despite these comparisons, the presence of high emotional exhaustion remains a concern for individual health and job performance (Williams, Zipp, Cahill and Parasher, 2013).

The second study was done by Williams and Zipp (2013) on chiropractors in the United States. The study was sent to 8000 chiropractors. The methodology of this study was the same as that conducted in 2012 (Williams, Zipp, Cahill and Parasher) but on a larger scale. The e-mail contained the MBIHSS survey and a questionnaire that contained questions related to chiropractic-specific stress factors. Of the 8000 chiropractors approached, only 1408 agreed to participate in the study. Data from 1162 participants was analysed.

High burnout was identified in 20 participants, low burnout was identified in 539 participants and the remaining 52% had moderate burnout. The subdivisions were scored as follows: 21% high, 19% moderate and 60% low levels of emotional exhaustion; 8% high, 16% moderate and 75% low levels of depersonalisation; and 76% high, 16% moderate and 8% low levels of personal accomplishment (Williams and Zipp, 2014).

Emotional exhaustion and depersonalisation were positively related to time spent on administrative duties, hours worked per week, dealing with insurance companies, work-related injuries, treatment of patients with acute, subacute and chronic ailments and those who had workman's compensation and major medical reimbursement as their primary reimbursement. Emotional exhaustion and depersonalisation were negatively related to time dictated to clinical care (Williams and Zipp, 2014).

Personal accomplishment was positively related to time spent on clinical care, practitioners in a wellness setting and of a professional status, which includes independent, group and sole

practitioners. Personal accomplishment was negatively related to time spent on administrative duties and workman's compensation (Williams and Zipp, 2014).

Emotional exhaustion, depersonalisation and personal accomplishment were all related to chiropractic focus. Those participants with a musculoskeletal focus had higher levels of emotional exhaustion and depersonalisation than those who are subluxation-based, who had higher levels of personal accomplishment. Personal accomplishment and depersonalisation were also related to sex: females had higher personal accomplishment and lower depersonalisation scores than men. According to literature, the age variable is most consistently correlated with burnout. Higher levels of burnout are seen among workers younger than 30-40 years (Maslach, Schaufeli and Leiter, 2001).

Participants who had symptoms of burnout had high levels of emotional exhaustion and depersonalisation and low levels of personal accomplishment. Again, perception of chiropractors by the public and perspectives within the chiropractic profession played a large role in the prevalence of burnout (Williams and Zipp, 2014).

C. Previous Causes and Risk Factors of Burnout

According to literature, stressors that lead to burnout can be divided into two categories: stressors related with administrative and domestic situations and stressors related with work (Nyssen and Hansez, 2008). The stressors related to work were identified as work overload, which is associated with time constraint; the pressure to produce a rapid turnover; and treatment of more than one patient at a time. Professional relationships are also a major source of stress. Working with other healthcare professionals can cause stress due to lack of communication, miscommunication, lack of referral or recognition by other professionals and lack of clinical autonomy. Other major stressors include sleep deprivation, lack of control, experiencing different levels of criticism for clinical activities and increased managerial responsibilities (Sousa and De Barros Mourao, 2018).

Administrative stressors are linked to high levels of emotional exhaustion in most burnout studies. An increase in administrative responsibilities is thus a major risk factor. Other factors that accompany administrative tasks include the need to reduce costs and increase revenue, financial reimbursement conflict, competition in the healthcare industry (Gurman, Klein and Weksler, 2012), staying up to date with rapidly changing medical knowledge, following new regulatory requirements, malpractice and a rise in legal suits (Shanafelt, Dyrbye and West, 2017).

The conflict between work and home demands can also be a major stressor. An extreme amount of stress in one area will have repercussions in the other. Personal factors such as lack of a support system, poor social climate, household chores and a lack of personal space contribute to burnout, as do age and gender. Younger health professionals are at higher risk of developing burnout, mainly because of inexperience. Women are also at higher risk of developing burnout. The following risk factors were identified as stressors causing burnout in women: gender roles, discrimination in the work place, family-related duties, domestic violence, sexual harassment and number of children they have (Gaszynska, Stankiewicz-Rudnicki and Szatko, 2014).

D. Burnout Manifestations

Early signs of burnout are irritability, sleep disorders and forgetfulness. Stress then leads to persistent tiredness, cynicism and social withdrawal. If no intervention takes place, exhaustion will take place and this causes depression, anxiety and loss of interest or pleasure. Burnout will affect an individual at work, yet as soon as it turns into depression, it will also affect the individual's personal life. Clinical manifestations of burnout are nonspecific; the following manifestations were identified in previous research: headaches, fatigue, eating and sleep disorders, increase in blood pressure and pulse rate and emotional instability (Lederer, Kinzl and Trefalt, 2006).

E. Burnout Consequences

Burnout syndrome can have detrimental consequences. Some of the more serious outcomes of burnout include abuse of substances, impaired physical health, rudeness towards patients, reduced motivation, low morale, problems with professional identity, accidents, medical errors, poor job performance, decreased work effort, reduced quality of care, reduced patient satisfaction, cardiovascular disease and suicide (Meretoja, 2009).

F. Treatment and Prevention of Burnout

The treatment for burnout mainly involves behavioural modification techniques. Firstly, it is important to identify factors causing stress and the impact those factors have on behaviour. After identifying these stressors, the next step is to try and eliminate those environmental and individual stressors. It is of great value to find a proper support system, including family, work and social. A support system will improve a healthcare professional's capability to respond to periods of increased stress (Kluger, Townend and Laidlaw, 2003).

Another measure that is mentioned in treating burnout is developing some line of thoughts, such as accepting limits of own competence and the limitations of healthcare. Some studies suggest using music in the work place. Music can improve intellectual capacity, enhance creativity and have healing properties (Jackson, 1999).

The best prevention and treatment for burnout is to be proactive when starting to feel stressed. The following are measures an individual can take to cope with work-related stress: adopting healthy habits such as healthy nutrition, adequate sleep, physical activity, vitamin supplementation, meditation, interests and hobbies and spending enough time with family and friends; and taking direct action by defining goals and values, dealing with demands, identifying priorities and practicing assertiveness, seeking support by asking for assistance and support when needed, communicating thoughts and feelings, becoming adaptable and flexible in response to demands and selecting

appropriate behaviour when dealing with stressful situations. Lastly, time management is important to reduce stress by being more organised and effective (Sousa & De Barros Mourao, 2018).

2.3 Doctors of Chiropractic

The World Health Organisation defines chiropractic as, “A health care profession concerned with the diagnosis, treatment and prevention of disorders of the neuromusculoskeletal system and the effects of these disorders on general health. There is an emphasis on manual techniques, including joint adjustment and/or manipulation, with a particular focus on subluxations” (World Health Organisation, 2006).

Chiropractic was founded by D.D. Palmer in 1895, but spinal manipulation dates back to Hippocrates. After medicine and dentistry, chiropractic has become the third-most utilised primary healthcare profession in the world (Chapman-Smith and Cleveland, 2005). The chiropractic profession is growing as many individuals recognise the need for alternative medical therapy. According to a study done in America, employment of chiropractors was estimated to grow by 12% from 2016 to 2026, which is considered faster than the average for all occupations (Bureau of Labor Statistics, 2016).

Chiropractic was introduced in South Africa in 1926 when Henry Otterholt, an American who graduated from the Palmer School of Chiropractic, arrived in Cape Town from New Zealand. Otterholt established a practice in Cape Town in 1926 and practiced successfully for a year. He then moved back to the United States and sold his practice to John Andrew Blackbourn, a New Zealander. The first South African citizens to become chiropractors were twins, Alan and Ivan Payne, who qualified in 1937 from the Lincoln Chiropractic College and returned to South Africa in 1938 (Brantingham and Snyder, 1999). Three other chiropractors who trained in America settled in South Africa. By 1928, a dispute between chiropractors in South Africa and other medical professions arose and lasted for approximately 40 years. In 1970 the South African Chiropractic Association (SACA) and the South African Manipulative Practitioners Association (SAMPA) united to form the Chiropractic Association of South Africa (CASA). In 1971 legislation licensing for chiropractors passed and professional status

was provisionally granted based on future review of evidence related to the potential danger chiropractic may pose on the public, chiropractors' usefulness in addition to other medical services and whether chiropractic satisfies the definition of "a profession." (Engelbrecht, 1992).

In 1982 chiropractic was granted full professional status. Between 1984 and 1988 the six-year professional qualification was developed and implemented (Myburgh and Mouton, 2007). The first group of chiropractic students started in 1989 and graduated in 1994. Today, there are approximately 800 qualified chiropractors in South Africa. All practicing chiropractors are registered with the Allied Health Professions Council of South Africa in terms of the Allied Health Professions Act 63 of 1982 (Brantingham and Snyder, 1999).

2.4 Conclusion

There is limited research on burnout among chiropractors and there is no research on burnout among chiropractors in South Africa. More research is needed to better understand what causes burnout and the effect it has on chiropractors mental health, patient-practitioners relationships and the individuals contribution to society.



CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter explains how the study was conducted.

3.2 Study Design

The study was an exploratory qualitative study that made use of cross-sectional data collection in order to understand the prevalence of burnout among doctors of chiropractic in South Africa.

3.2.1 Participant Recruitment

All practicing chiropractors in South Africa must be registered with Allied Health Professions Council of South Africa according to Act 63 of 1982. CASA consists of approximately 78% of all registered chiropractors in South Africa and allows full membership to all qualified chiropractors who are registered with Allied Health Professions Council of South Africa. Approximately 700 participants were recruited through professional chiropractic bodies such as the Allied Health Professions Council of South Africa and CASA.

3.2.2 Sample Selection and Size

The research sample consisted of approximately 700 qualified chiropractors, male and female, practicing in South Africa.

3.2.3 Inclusion Criteria

- Qualified doctors of chiropractic, male and female, of all ages who are registered with Allied Health Professions Council of South Africa.
- Primary occupation involving the chiropractic profession in any of the following capacities:
 - Clinical
 - Administrative o Academic o Research

3.2.4 Exclusion Criteria

- Non-direct care doctors of chiropractic.
- Doctors of chiropractic practicing outside South Africa.
- Doctors of chiropractic not currently practicing

3.3 Survey Approach



3.3.1 First and Follow-up Survey

An invitation letter (Appendix A) was sent out via e-mail to all qualified chiropractors in South Africa. The invitation included the purpose and procedures of the research, explanation of the anonymous and voluntary nature of the survey, and possible risks and benefits of participation (Appendix B), as well as a consent form (Appendix C). Also included in the e-mail was a hyperlink to the online version of the MBI-HSS (MP) survey (Appendix D), with a 20-question demographic questionnaire (Appendix E). The MBI-HSS (MP) consists of 22 Likert-scale questions measuring emotional exhaustion, depersonalisation and personal achievement. A reminder e-mail was sent out 15 days after the initial invitation e-mail.

3.4 Subjective and Objective Data

3.4.1 The Maslach Burnout Inventory- Human Services Survey

The MBI-HSS (MP) was developed by Maslach and Jackson in 1981. It is the most frequently used and most reliable tool used in measuring burnout and is considered the “gold standard” (Maslach, Schaufeli and Leiter, 2001). The MBI-HSS has been validated by the extensive research that has been conducted over 35 years since its initial publication. The MBI-HSS (MP) is derived from the MBI-HSS and has been used for different medical professionals such as nurses, physicians, health specialists, therapists and dentists. The MBI-HSS (MP) measures three components of burnout, including emotional exhaustion, which measures the feeling of emotional burden; depersonalisation, which measure impersonal response toward patients; and personal accomplishment, which measures the feeling of capability and successful achievement in one’s chiropractic work. The MBI-HSS (MP) consists of 22 Likert-scale questions measuring the three above-mentioned aspects of burnout (Maslach et al., 2001). Included in the survey was a 20-question demographic questionnaire. Permission and license to use the MBI-HSS (MP) was obtained from Mind Garden.

3.5 Data Analysis

The researcher collected and captured the data from the Transform Survey Hosting MBI-HSS (MP) survey and the data was analysed by the STATKON Department of the University of Johannesburg. The electronic medium Survey Monkey was used. There are two methods of scoring the MBI-HSS (MP): the SUM method and the AVE method. For this study, the SUM method was used. The SUM method adds the responses to the MBI HSS (MP) items for each scale and uses the SUM as the scale score. The scoring method is as follows:

Emotional exhaustion (SUM) = Items 1 +2 + 3 + 6+ 8 + 13 + 14 + 16 + 20

Depersonalisation (SUM) = Items 5 + 10 + 11 + 15 + 22

Personal accomplishment (SUM) = Items 4 + 7 + 9 + 12 + 17 + 18 + 19 + 21

Higher scores for emotional exhaustion and depersonalisation indicate higher degrees of burnout whereas lower scores for personal accomplishment indicates higher degrees of burnout. Spearman correlations, one-way analyses of variance (ANOVAs) and independent sample t tests were used to assess the interactions between emotional exhaustion, depersonalisation and personal accomplishment with sociodemographic variables.

3.6 Ethical Considerations

All participants that wished to participate in this study were requested to read the information form (Appendix B) and click on “agree” on the consent form (Appendix C) specific to this study. The information and consent form detailed the names of the researcher, purpose of the study and benefits of participating in the study. The procedure and any risks and benefits pertaining to the survey were also explained and the participants’ anonymity was ensured. The information and consent form also explained that the participants’ privacy would be protected by ensuring anonymity and confidentiality when compiling the research dissertation. The participants were informed that their participation was on a voluntary basis and that they were free to withdraw from the study at any stage. Should the participant have had any further questions, these would have been answered by the researcher; contact details were made available. The participants were then required to sign the information and consent forms, signifying that they understood all that was required of them for this particular study. Results of the study were made available on request.

With regards to this study, there was no risks or discomforts. The benefit of participation was the contribution to helping identify precipitating factors that could lead to burnout and thus generate awareness and methods on improving the quality of professional life for doctors of chiropractic.

The e-mail containing the link to the online questionnaire was sent out to all qualified chiropractors in South Africa after the necessary Ethics Committee clearance letter (Appendix F) and Higher Degrees Committee clearance letter (Appendix G) was received.

A similarity report for this study has been obtained through the Turnitin programme of the University of Johannesburg (Appendix H). This dissertation has been edited by a qualified language practitioner (Appendix I).



CHAPTER 4: RESULTS

4.1 Introduction

This chapter describes the three subdivisions of burnout: emotional exhaustion, depersonalisation and personal accomplishment, which were used to determine the level of burnout among chiropractors in South Africa. This chapter will also describe the demographics of the chiropractors that took part in this study and the effect that these demographic factors had on burnout.

Seven hundred surveys were distributed to all qualified chiropractors registered with Allied Health Professions Council of South Africa. The survey was distributed by CASA. Questionnaires could be submitted during the months of October 2018 and February 2019. Of the **700** surveys sent out, **83** surveys were returned to the researcher. Only data from **79** chiropractors was analysed in this study. Four surveys were incomplete and thus excluded from the data analysis. As a result, the return rate of this study was **12%**. In other literature, the average return rate of web-based surveys ranges between **11%** and **15.4%** (Blumberg and Luke, 2009).

4.2 Demographics

4.2.1 Gender of Participants

Table 4.1 and Figure 4.1 illustrates the gender of the participants. Out of the **79** participants, **48** were female and **31** males. Thus, **61%** of participants were female and **39%** were male.

Table 4. 1: Gender of Participants

Female	Male	Grand Total
48	31	79

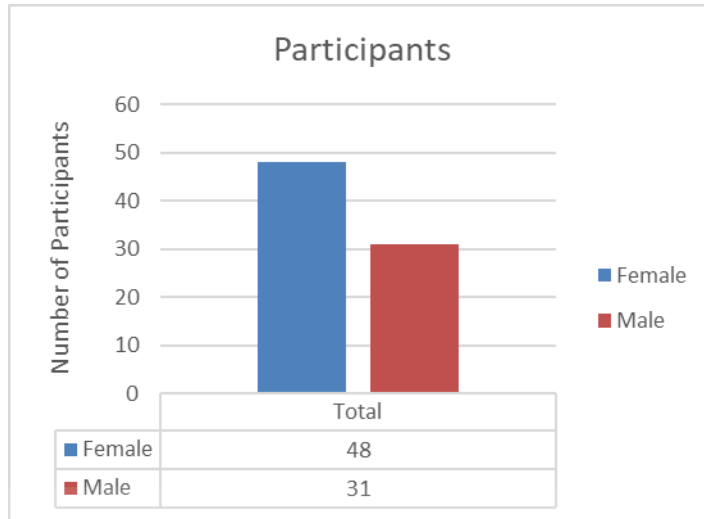


Figure 4. 1: Bar Graph Representing the Gender of Participants

4.2.2 Age of Participants

Table 4.2 and Figure 4.2 illustrates the age distribution of the participants. The age of participants ranged from 20-70 years old. The largest participant group comprised individuals between the ages of 20-30, with a total **32** participants (**41%**). Of these, **19** were female and **13** were male. Individuals in this group were thus newly qualified chiropractors.

The second-largest group comprised individuals between the ages of 31-40, with a total of **23** participants (**29%**) – **17** female and **6** male. Twenty participants (**25%**) were aged between 41-50 – **12** females and eight males. The last two groups, 51-60 (**1.3%**) and 61-70 (**3.8%**), accounted for a total of four participants. Interestingly, in the age group 51-70, there were no female participants.

Table 4. 2: Age of Participants

Age	Grand Total
20-30	32
31-40	23
41-50	20
51-60	1
61-70	3
Grand Total	79

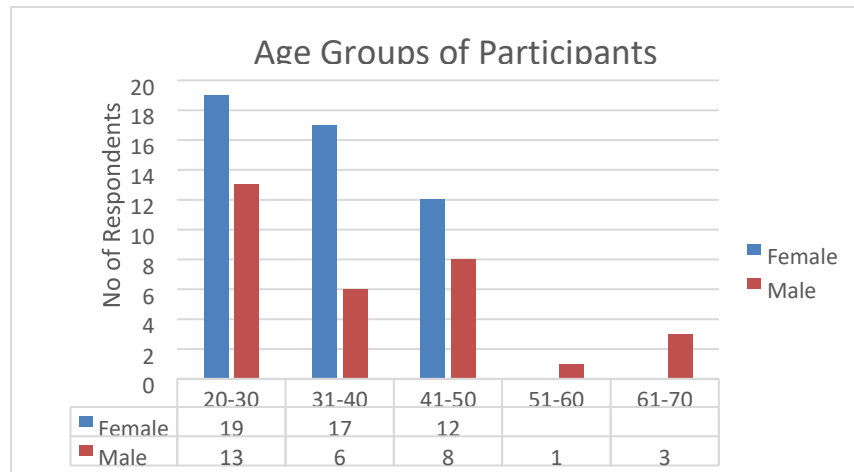


Figure 4. 2: Bar Graph Representing the Age of Participants

4.2.3 Geographic Distribution of Participants

Lastly, Table 4.3 and Figure 4.3 illustrates the geographic distribution of chiropractors in South Africa. Most of the chiropractors were from Gauteng – **26** females and **18** males, totaling **44** participants. KwaZulu-Natal accounted for the second-largest number of chiropractors (**19** participants), of which **14** were female and **5** male. The third-largest group was from the Western Cape – **4** females and **5** males (a total of **9** participants). Only one participant each from Eastern Cape, Free State, Limpopo and Mpumalanga participated in the study. The geographic distribution coincides with the location of the largest urban centres of South Africa.

Table 4. 3: Geographic Distribution of Participants

Province	Female	Male	Grand Total
Eastern Cape	1	1	2
Free State	1	1	2
Gauteng	26	18	44
KwaZulu-Natal	14	5	19
Limpopo	1	1	2
Mpumalanga	1		1
Western Cape	4	5	9
Grand Total	48	31	79

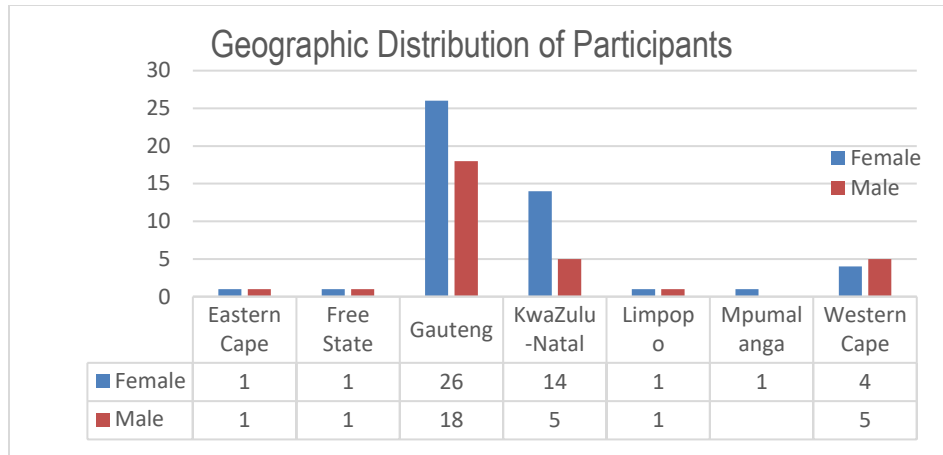


Figure 4. 3: Bar Graph Representing the Geographic Distribution of Participants

4.3 Working Characteristics of the Participants

4.3.1 Total Number of Years in the Chiropractic Profession

Table 4.4 and Figure 4.4 illustrates the total number of years each participant had been in the chiropractic profession. The majority of the participants fell in the 0-5 years group (**39** participants; **49%**). These were all young professionals and that recently qualified. Participants who had been practicing between 0-15 years were predominantly female. Interestingly, those who had been practicing for longer and fell in the 16-30+ year group were predominantly male. The data suggests that an increasing number of new entrants in the profession are female.

Table 4. 4: Years in the Chiropractic Profession

Years in Profession	Female	Male	Grand Total
0-5	25	14	39
6-10	9	3	12
11-15	10	4	14
16-20	2	3	5
21-25	2	3	5
30+		4	4
Grand Total	48	31	79

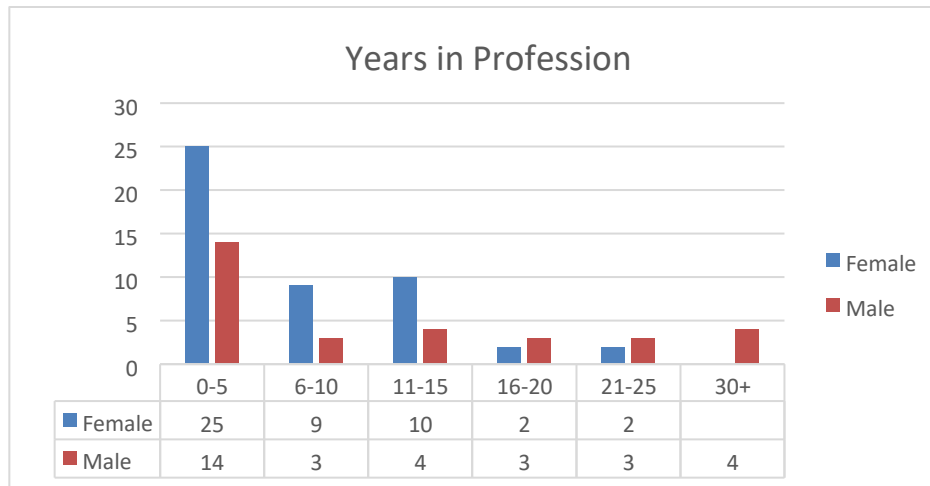


Figure 4. 4: Bar Graph Representing the Number of Years in the Chiropractic Profession

4.3.2 Primary Practice Setting of Participants

There are four different practice settings: acute, subacute, chronic and wellness. According to Table 4.5 and Figure 4.5, **30%** of the participants' primary practice setting was acute, **28%** subacute, **24%** chronic and **18%** wellness. Interestingly, more female participants worked with chronic patients than male participants.

Table 4. 5: Primary Practice Setting

Primary practice setting/type	Female	Male	Grand Total
Acute	12	12	24
Chronic	16	3	19
Subacute	14	8	22
Wellness	6	8	14
Grand Total	48	31	79

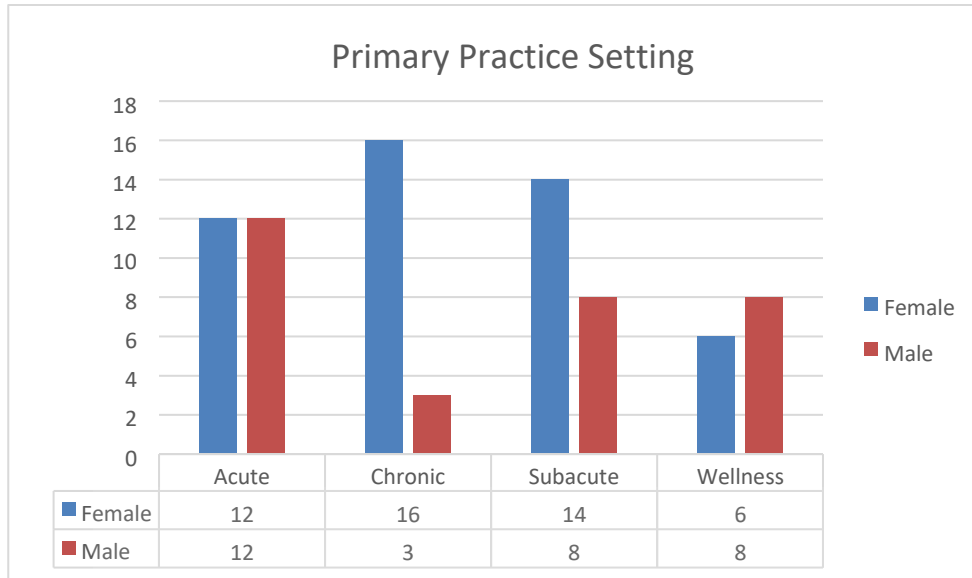


Figure 4. 5: Bar Graph Representing the Primary Practice Setting of Participants

4.3.3 Primary Service Reimbursement

In South Africa there are two types of primary reimbursements: medical aid and cash fees. Table 4.6 and Figure 4.6 show that the majority of participants (**70%**) required cash payments for treatment. Only **30%** of participants were paid by medical aid. These figures indicate that chiropractors prefer cash payments due to the administrative burden of claiming from medical aids.

Table 4. 6: Primary Reimbursement for Services

Primary reimbursement for services rendered	Female	Male	Grand Total
Cash fee for services	33	22	55
Medical aid	15	9	24
Grand Total	48	31	79

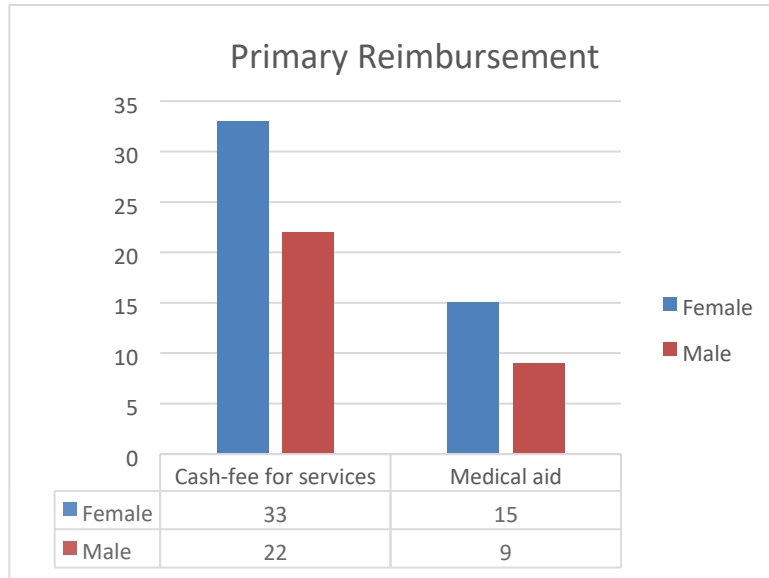


Figure 4. 6: Bar Graph Representing the Primary Reimbursement for Participants' Services

4.3.4 Current Job Titles of Participants

Table 4.7 and Figure 4.7 show different the job titles of participants. The majority, or **68%** of participants, were sole practitioners. Females were more often sole practitioners than the male participants. Only **15%** of participants were part of a group practice, **13%** were an associate in a practice and only **4%** of participants were independent contractors. Male participants were more likely to be more in a group practice or an associate than female participants.

Table 4. 7: Current Job Title of Participants

Current job title	Female	Male	Grand Total
Associate	7	3	10
Group practice	5	7	12
Independent contractor	3		3
Sole practitioner	33	21	54
Grand Total	48	31	79

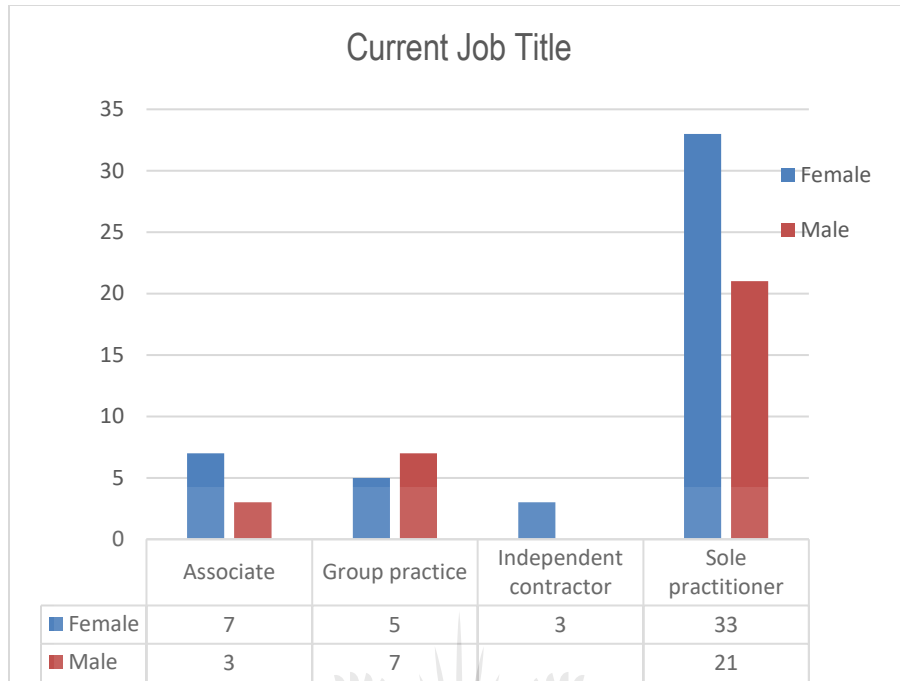


Figure 4. 7: Bar Graph Representing the Current Job Title of Participants

4.3.5 Practice Ownership

As shown in Table 4.8 and Figure 4.8, 80% of participants owned their own practice. Only 20% of participants practiced under another chiropractor. Male participants were more likely to work under another chiropractor; 22% of male participants did not own their own practice.

Table 4. 8: Practice Ownership

Own Practice	Female	Male	Grand Total
No	9	7	16
Yes	39	24	63
Grand Total	48	31	79

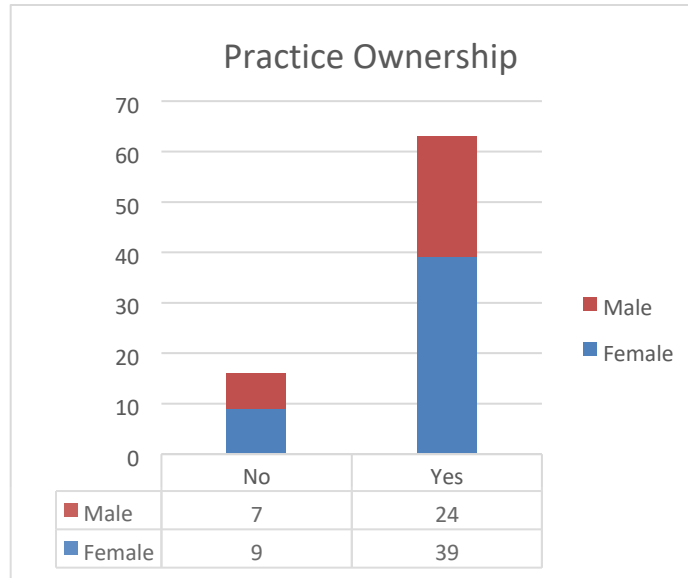


Figure 4. 8: Bar Graph Representing the Number of Participants that Own a Practice

4.3.6 Associate Chiropractor Present in Practice

The majority of participants did not have an associate chiropractor present in their patient consultations and worked independently. As shown in Table 4.9 and Figure 4.9, **67%** of participants did not have an associate and only **33%** worked with an associate.

Table 4. 9: Associate Chiropractor Present in Practice

Presence of Associate Doctor of Chiropractic	Female	Male	Grand Total
No	33	20	53
Yes	15	11	26
Grand Total	48	31	79

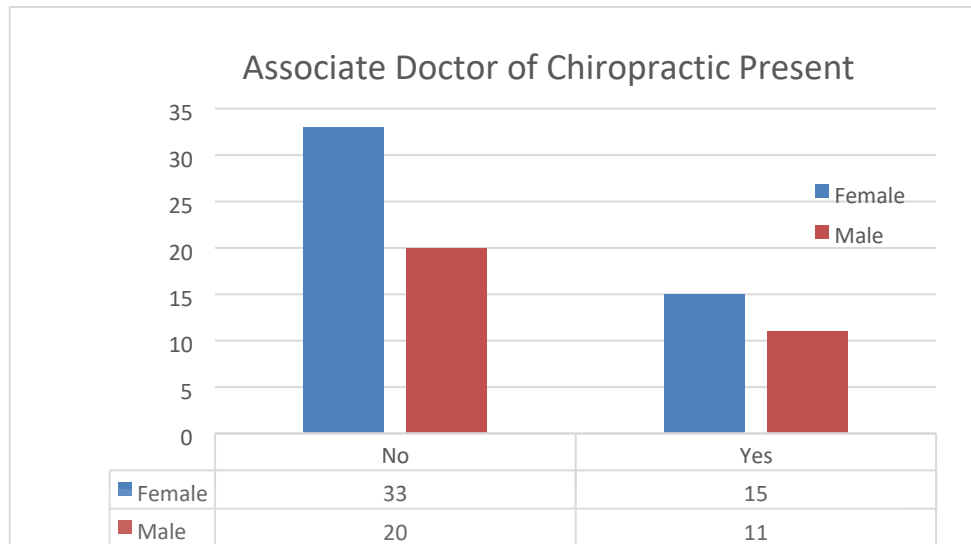


Figure 4. 9: Bar Graph Representing if There is an Associate Chiropractic Present

4.3.7 Time Dedicated to Clinical Care

Table 4.10 and Figure 4.10 indicate that **44%** of participants spent more than **76%** of their time on clinical care of patients, **34%** spent between 51-75% on clinical care, **14%** spent between 25-50% on clinic care and only six participants spent less than 25% of their time on clinical care. The majority of participants spent approximately 25% of their time on non-clinical activities such as administrative and managerial tasks.

Table 4. 10: Percentage of Time Dedicated to Clinical Care

Percentage of Time Dedicated to Clinical Care	Female	Male	Grand Total
<25%	5	1	6
25%-50%	9	2	11
51%-75%	16	11	27
>76%	18	17	35
Grand Total	48	31	79

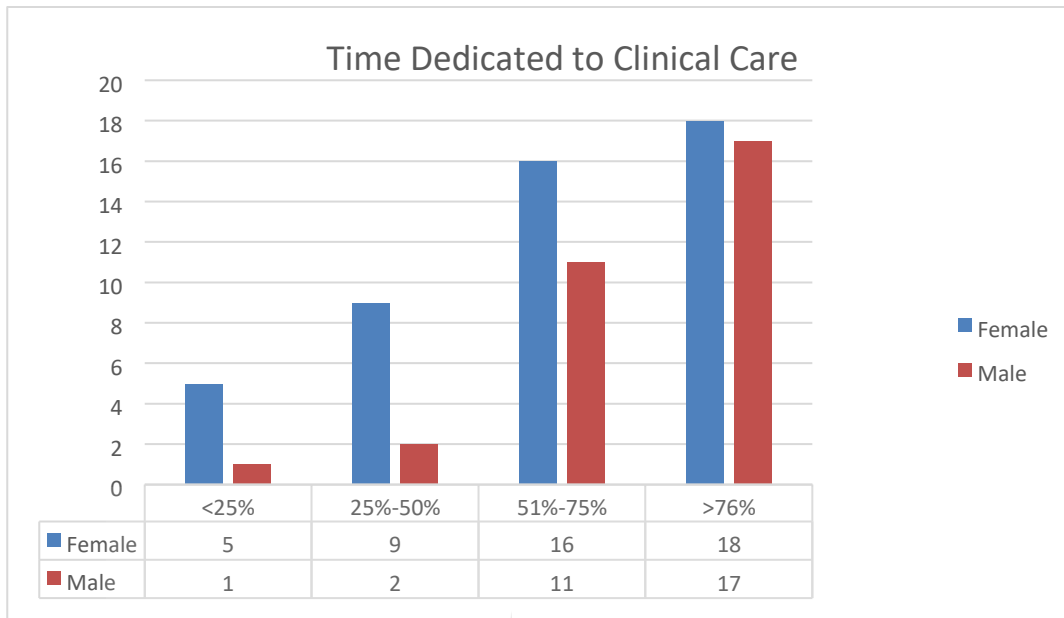


Figure 4. 10: Bar Graph Representing the Percentage of Time Dedicated to Clinical Care

4.3.8 Time Dedicated to Administrative Duties

Table 4.11 and Figure 4.11 illustrates the percentage of time dedicated to administrative duties. Most of the participants (73%) spent less than 25% of their time on administrative duties, whereas 5% of participants spent more than 75% of time on administrative duties. Female participants spent more time on administrative duties than their male counterparts. Male participants tended to spend less than 50% of their time on administrative duties. These results confirm that administrative and managerial tasks are subordinate to clinical care in the majority of practices.

Table 4. 11: Percentage of Time Dedicated to Administrative Duties

Percentage of Time Dedicated to Administrative Duties	Female	Male	Grand Total
<25%	31	27	58
25%-50%	11	4	15
51%-75%	2		2
>76%	4		4
Grand Total	48	31	79

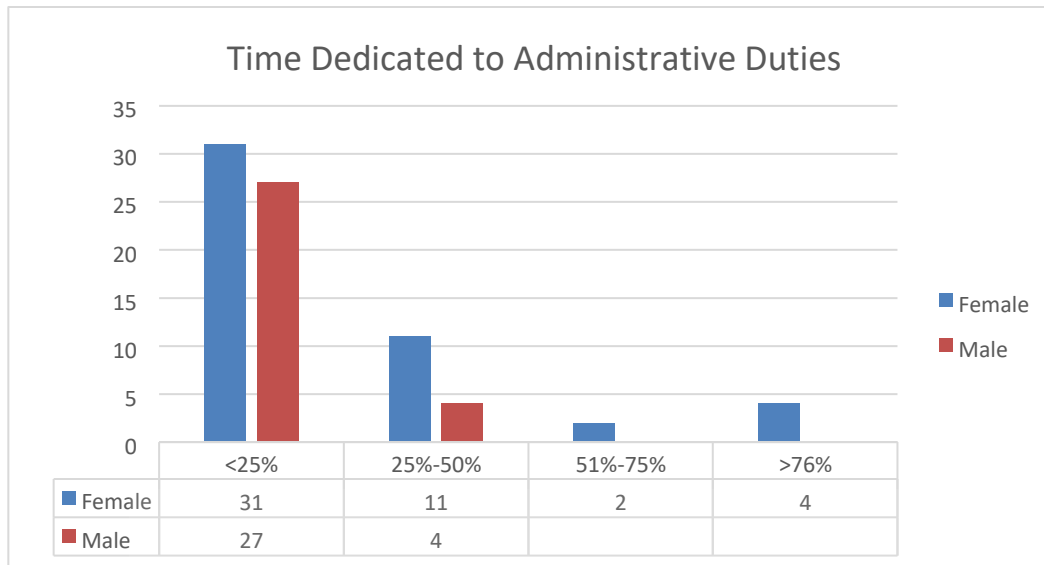


Figure 4. 11: Bar Graph Representing the Percentage of Time Dedicated to Administrative Duties

4.3.9 Hours Worked Per Week

Table 4.12 and Figure 4.12 illustrates the number of hours participants worked per week. The average working day consisted of eight hours, thus the average working week was 40 hours. Fortythree percent of participants worked more than 40 hours per week – this group was predominantly male. Forty-two worked between 21-40 hours per week and this group was predominantly female and may reflect increased family responsibilities. Indeed, females dominated the group that worked less than 20 hours per week. However, this finding could also reflect the new entrant status of many females in the samples. Only 15% of all participants worked less than 20 hours per week.

Table 4. 12: Hours Worked per Week

Hours Worked per Week	Female	Male	Grand Total
<20 hours	11	1	12
21-40 hours	23	10	33
>40 hours	14	20	34
Grand Total	48	31	79

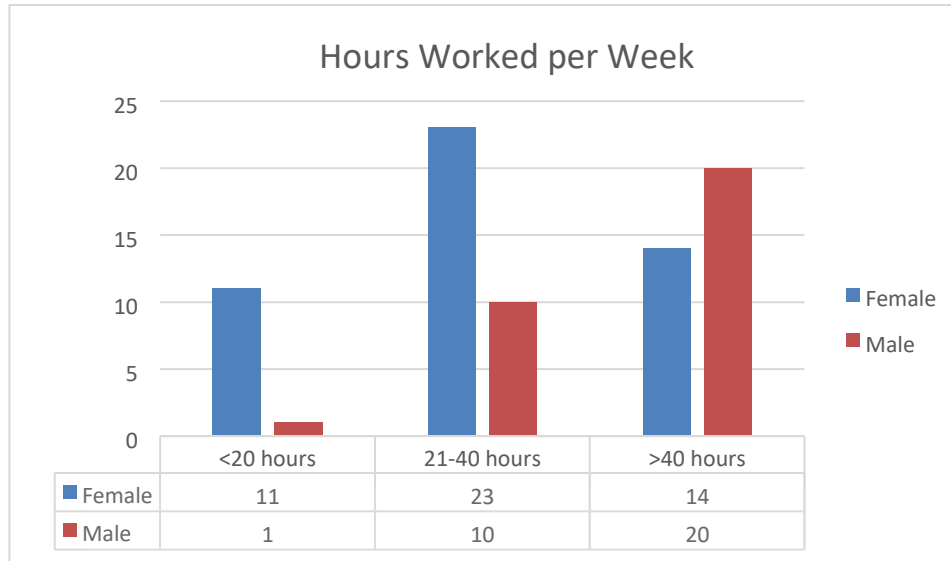


Figure 4. 12: Bar Graph Representing the Hours Worked per Week

4.3.10 Average Number of Patient Visits Per Day

As shown in Table 4.13 and Figure 4.13, the majority of participants (66%) saw less than 10 patients per day. The participants who fell in this group were mainly female. This group also consisted of younger professionals, thus those who were still working on building up a patient basis. A quarter (25%) of participants saw between 11-20 patients per day, 8% saw 21-30 patients per day and only one participant saw between 31-40 patients per day. In the group of 21-30 patients per day, only two participants were female – the other four were male. In the last group of 31-40 patients per day, the single participant was male.

Table 4. 13: Average Patient Visits per Day

Number of Patient Visits per Day	Female	Male	Grand Total
0-10	37	15	52
11-20	9	11	20
21-30	2	4	6
31-40		1	1
Grand Total	48	31	79

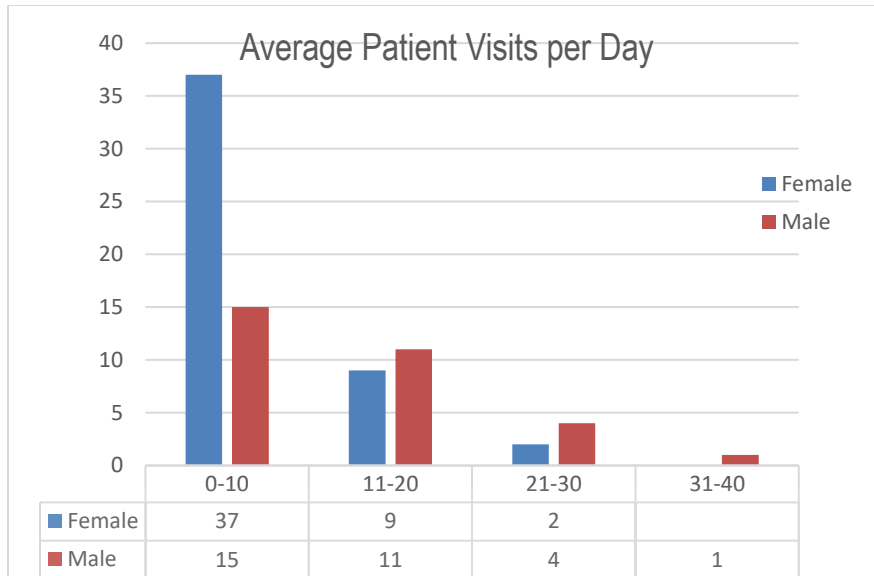


Figure 4. 13: Bar Graph Representing the Average Patient Visits per Day

4.3.11 Average Number of Patient Visits Per Week

As reflected in Table 4.14 and Figure 4.14, the majority of the participants (70%) on average saw between 0-50 patients per week. A quarter (25%) saw between 51-100 patients per week and only 5% saw more than 100 patients on average per week. Most female participants saw 0-50 patients on average per week. Seven female participants saw between 51-100 patients per week and only one female participant saw more than 100 patients per week. Most male participants saw between 0-100 patients on average per week and three male participants saw more than 100 patients per week. Male chiropractors clearly saw more patients per week than their female counterparts.

Table 4. 14: Average Patient Visits per Week

Number of Visits per Week	Females	Males	Total
0-50	40	15	55
51-100	7	13	20
>100	1	3	4
Grand Total	48	31	79

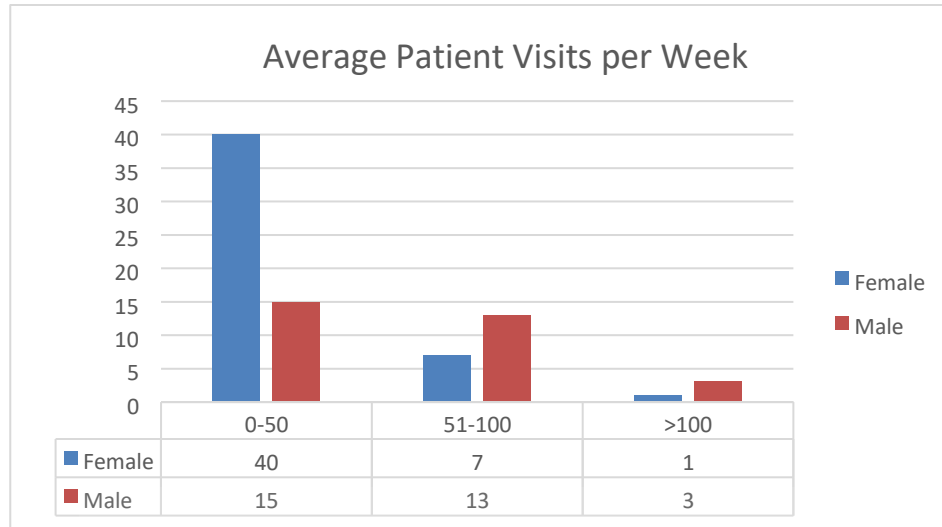


Figure 4. 14: Bar Graph Representing the Average Patient Visits per Week

4.4 Chiropractic Characteristics

4.4.1 Varying Philosophical Perspective within the Chiropractic Profession

There are varying philosophical perspectives within the chiropractic profession. Participants were asked if they felt that these varying philosophies increased their sense of burnout. As shown in Table 4.15 and Figure 4.15, **67%** of participants said that varying philosophies did not increase their sense of burnout and **33%** said that it did increase their sense of burnout. More female participants felt that these varying philosophies affected burnout than male participants.

Table 4. 15: Influence of Varying Philosophical Perspectives on Participants' Sense of Burnout

Whether the various philosophical perspectives affect burnout	Female	Male	Grand Total
No	30	23	53
Yes	18	8	26
Grand Total	48	31	79

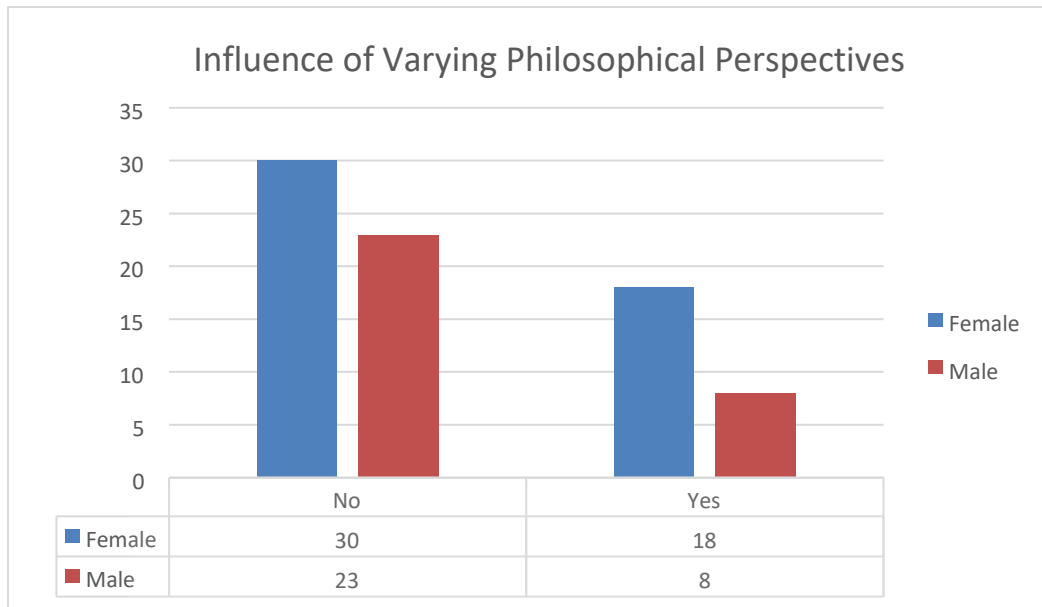


Figure 4. 15: Bar Graph Representing the Influence of Varying Philosophical Perspectives on Participants' Sense of Burnout

4.4.2 Public Perception of Chiropractors

Table 4.16 and Figure 4.16 illustrate that just less than half (**48%**) of chiropractors were of the view that public perceptions of chiropractic had an influence on their sense of burnout. These perceptions must be negative to increase the sense of burnout. This finding also indicates that there are still significant negative perceptions amongst the public about chiropractic.

Table 4. 16: Influence of the Public's Perception of Chiropractic on Participants' Sense of Burnout

Whether Public Perception of Chiropractors Affects Burnout	Female	Male	Grand Total
No	23	18	41
Yes	25	13	38
Grand Total	48	31	79

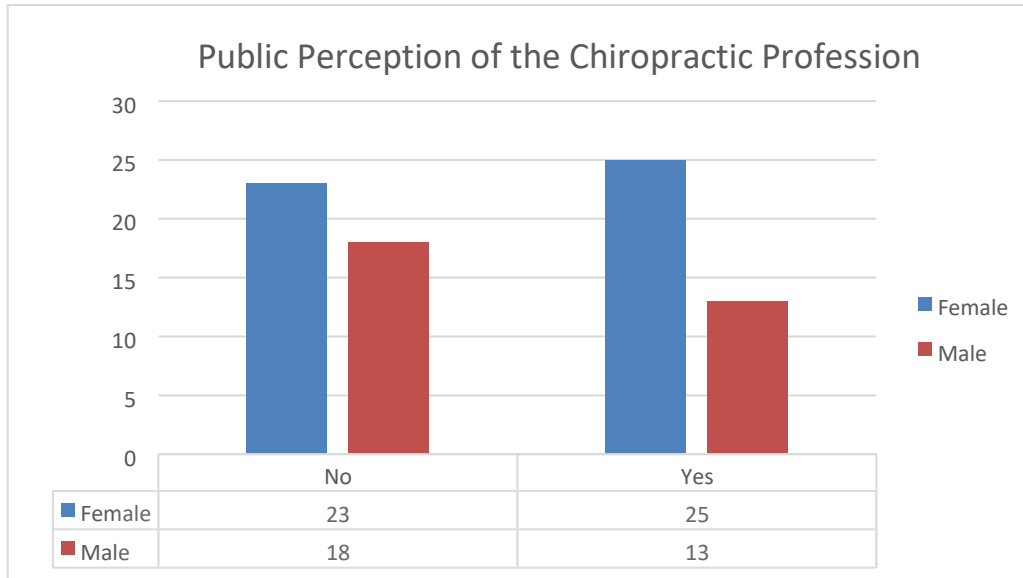


Figure 4. 16: Bar Graph Representing the Influence of the Public's Perception of Chiropractic on the Participants' Sense of Burnout

4.4.3 Work-Related Injury Causing Burnout

Work-related injuries have been identified as a factor that can lead to burnout. The majority of participants in this study felt that a work-related injury did not increase their sense of burnout. As shown in Table 4.17 and Figure 4.17, approximately **30%** of participants had an increased sense of burnout due to a work-related injury – most of whom were female, while only seven males felt this way. It is clear that work-related injuries do contribute to burnout to some degree.

Table 4. 17: Influence of a Work-Related Injury on the Participants' Sense of Burnout

Whether Work-Related Injuries Influence Participants' Sense of Burnout	Female	Male	Grand Total
No	31	24	55
Yes	17	7	24
Grand Total	48	31	79

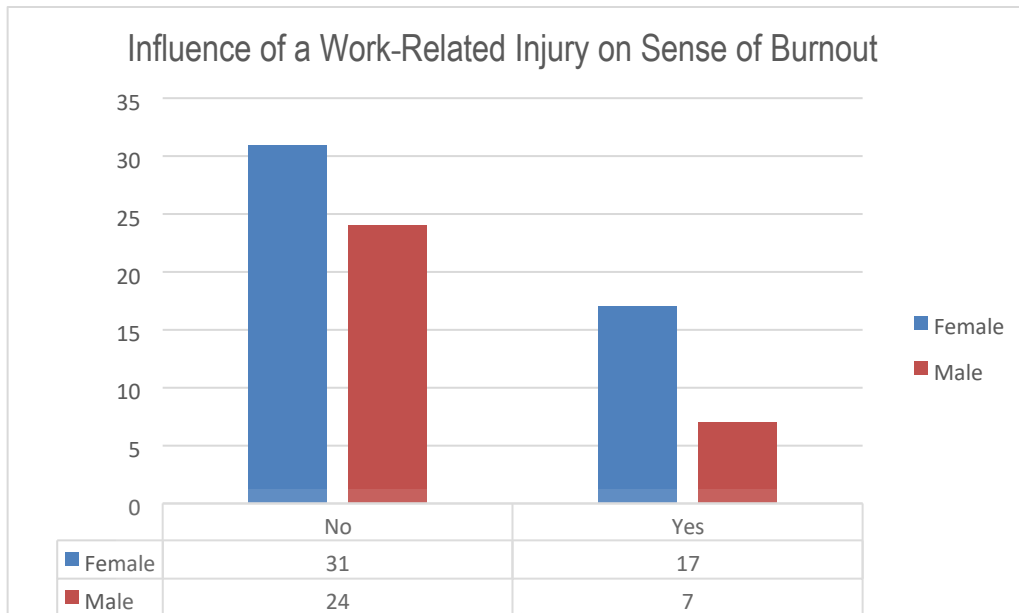


Figure 4. 17: Bar Graph Representing the Influence a Work-Related Injury Has on the Participants' Sense of Burnout

4.4.4 Self-Identification of Burnout

Table 4.18 and Figure 4.18 illustrates that **43%** of chiropractors in the sample experience some level of burnout. Slightly more females than males classified themselves as experiencing symptoms of burnout. Patient volumes and working hours clearly are not significant burnout contributors.

Table 4. 18: Self-Identification of Burnout

Self-Identification of Burnout	Female	Male	Total
No	27	18	45
Yes	21	13	34
Grand Total	48	31	79

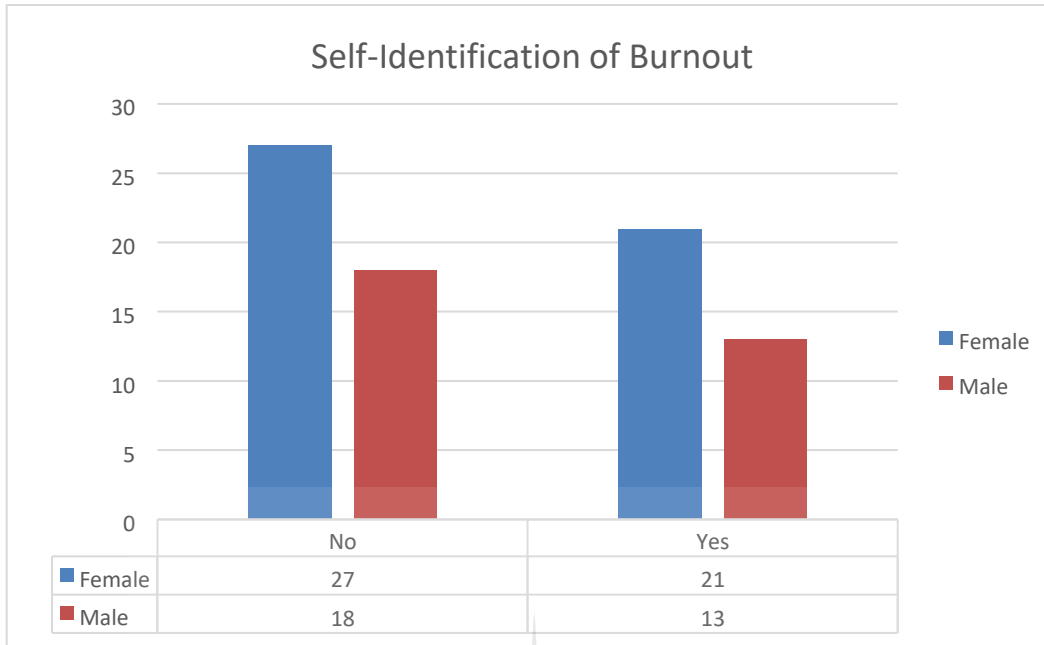


Figure 4. 18: Bar Graph Representing Self-Identification of Burnout by the Participants

4.5 Prevalence of Burnout

Burnout was determined by measuring three subscale categories: emotional exhaustion, depersonalisation and personal accomplishment. The Maslach Burnout Inventory consists of 22 Likert-scale questions. Tables 4.19, 4.20 and 4.21 show which questions fall under the different subscales. Table 4.22 illustrates the different values of each question.

Table 4. 19: Emotional Exhaustion Questions

Question Number	Question
1	I feel emotionally drained from my work
2	I feel used up at the end of the work day
3	I feel fatigued when I get up in the morning and have to face another day on the job
6	Working with people all day is really a strain for me
8	I feel burned out from my work
13	I feel frustrated by my job
14	I feel I am working too hard on my job
16	Working with people directly puts too much stress on me
20	I feel like I am at the end of my rope

Table 4. 20: Depersonalisation Questions

Question Number	Question
5	I feel I treat some patients as if they were impersonal objects
10	I have become more callous toward people since I took this job
11	I worry that this job is hardening me emotionally
15	I do not really care what happens to some patients
22	I feel patients blame me for some of their problems

Table 4. 21: Personal Accomplishment Questions

Question Numbers	Question
4	I can easily understand how my patients feel about things
7	I deal very effectively with the problems of my patients
9	I feel I am positively influencing other people's lives through my work
12	I feel very energetic
17	I can easily create a relaxed atmosphere with my patients
18	I feel exhilarated after working closely with my patients
19	I have accomplished many worthwhile things in this job
21	In my work, I deal with emotional problems very calmly

Table 4. 22: Values of Questions

Description	Scale Value
Never	0
A few times a year or less	1
Once a month or less	2
A few times a month	3
Once a week	4
A few times a week	5
Every day	6

4.5.1 Burnout Subscales Results

A. Emotional Exhaustion Results

Frequencies and percentages were conducted on groupings of scores based on Table 4.23 and Figure 4.19. Emotional exhaustion was divided into low, average and high. The higher the sum of emotional exhaustion questions, the higher the level of emotional exhaustion. Ten participants had high levels, **29** participants had average levels and **40** participants had low levels of emotional exhaustion. Emotional exhaustion is the biggest contributor to burnout. Only **12.7%** of participants showed high levels of emotional exhaustion. The majority of patients (**50.6%**) showed low levels of emotional exhaustion.

Table 4. 23: Frequency and Percentage of Emotional Exhaustion

	Scale	Number	Percentage
Low	16	40	50.6%
Average	32	29	36.7%
High	48	10	12.7%

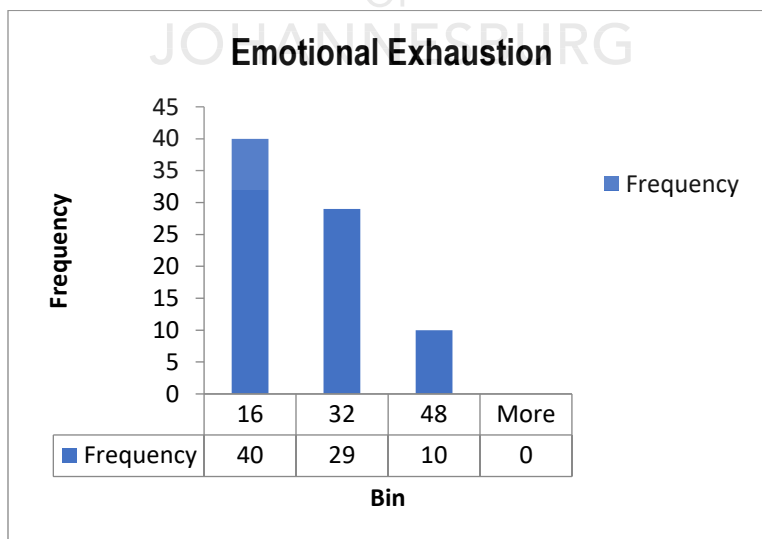


Figure 4. 19: Histogram Representing Emotion Exhaustion Frequencies

B. Depersonalisation Results

Frequencies and percentages were conducted on the groupings of scores based on Table 4.24 and Figure 4.20. Depersonalisation was divided into low, average and high. The higher the sum of depersonalisation questions, the higher the level of depersonalisation. Seventy-three participants had low levels and six participants had average levels of depersonalisation. Interestingly, none of the participants had high levels of depersonalisation. Depersonalisation and emotional exhaustion indicate burnout.

Table 4. 24: Frequency and Percentage of Depersonaliastion

	Scale	Number	Percentage
Low	16	73	92.4%
Average	32	6	7.6%
High	48	0	0.0%

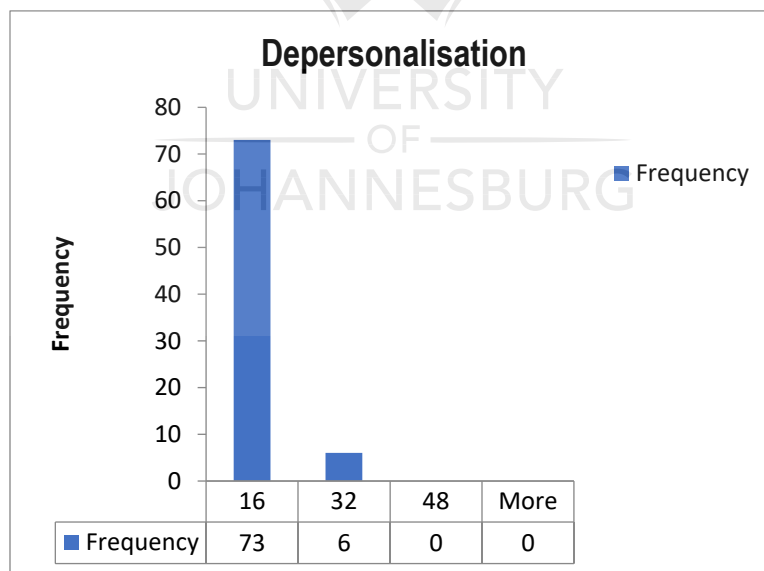


Figure 4. 20: Histogram Representing the Frequency of Depersonalisation

C. Personal Accomplishment

Frequencies and percentages were conducted on the groupings of scores based on Table 4.25 and Figure 4.21. High personal accomplishment decreases the level of burnout. With personal accomplishment, the higher the sum of the questions, the higher the levels of personal accomplishment. This subdivision is the reverse of the other two subdivisions (emotional exhaustion and depersonalisation). Seventy-four participants had high levels and five participants had average levels of personal accomplishment. None of the participants had low levels of personal accomplishment.

Table 4. 25: Frequency and Percentage of Personal Accomplishment

	Scale	Number	Percentage
Low	16	0	0%
Average	32	5	6%
High	48	74	94%

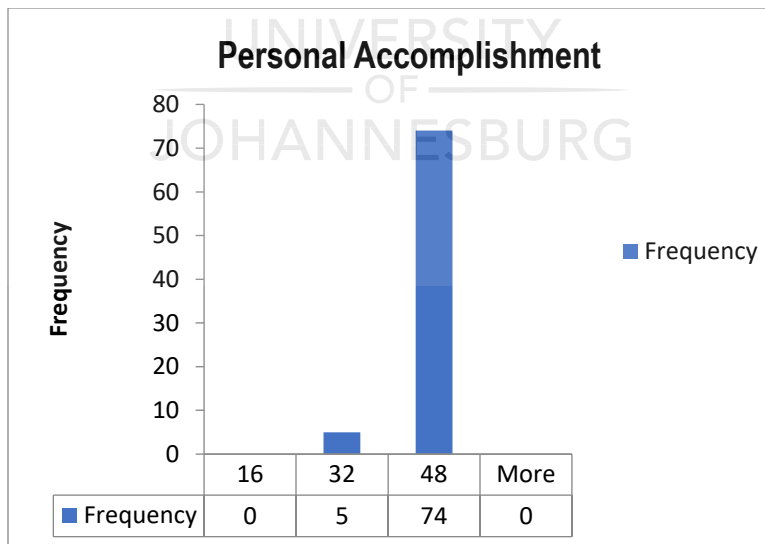


Figure 4. 21: Histogram Representing the Frequency of Personal Accomplishment

4.5.2 Burnout

In total, only two participants had severe burnout, two participants had high levels of burnout and four participants had medium burnout. The two participants with severe burnout experienced symptoms of burnout a few times a week. The two participants with high burnout experienced symptoms of burnout once a week. The four participants with medium burnout experienced symptoms of burnout between a few times a month. The majority (71 participants; 90%) had low levels of burnout and experienced symptoms of burnout a few times a year or less.

Table 4. 26: Emotional Exhaustion Results

Q No	Question	Total (Sum)	Average	No of Observations	
1	I feel emotionally drained from my work	202	2.56	79	
2	I feel used up at the end of the work day	241	3.05	79	
3	I feel fatigued when I get up in the morning and have to face another day on the job	172	2.18	79	
6	Working with people all day is really a strain for me	131	1.66	79	
8	I feel burned out from my work	167	2.11	79	
13	I feel frustrated by my job	157	1.99	79	
14	I feel I am working too hard on my job	164	2.08	79	
16	Working with people directly puts too much stress on me	114	1.44	79	
20	I feel like I am at the end of my rope	95	1.20	79	
EE	Total Emotional Exhaustion	1443	2.03	711	-> once a month or less

Table 4.26 illustrates the sum of emotional exhaustion and the average of each question that falls under this subdivision. The average of all participants was **2.03**, thus indicating that as a group the participants experienced emotional exhaustion once a month or less. Higher scores were seen on questions 1 and 2, "I feel emotionally drained from my work" and "I feel used up at the end of the work day", respectively. Question 20, "I feel like I am at the end of my rope", had a very low total score of **95**, thus indicating that participants might have felt this once or twice a year. Participants felt that they were burnt out from their work (question 8) and that they worked too hard (question 14) once a month or less.

Table 4. 27: Depersonalisation Results

Q No	Question	Total (Sum)	Average	No of Observations	
5	I feel I treat some patients as if they were impersonal objects	72	0.91	79	
10	I have become more callous toward people since I took this job	85	1.08	79	
11	I worry that this job is hardening me emotionally	77	0.97	79	
15	I do not really care what happens to some patients	32	0.41	79	
22	I feel patients blame me for some of their problems	120	1.52	79	
	Total Depersonalisation	386	0.93	415	-> a few times a year or less

Table 4.27 illustrates the sum of depersonalisation and the average of each question that falls under this subdivision. The average of all participants was very low (**0.93**), thus participants as a group felt symptoms of depersonalisation a few times a year or less. The highest score was for question 22, “I feel patients blame me for some of their problems”, where the average was **1.52**. This finding indicates that participants felt patients blame them for their problems once a month or less. The lowest-scored question in this subdivision was question 15, “I do not really care what happens to some patients” (**0.41**), which indicates that participants never felt this way.

Table 4. 28: Personal Accomplishment Results

Q No	Question	Total (Sum)	Average	No of Observations
4	I can easily understand how my patients feel about things	434	5.49	79
7	I deal very effectively with the problems of my patients	429	5.43	79
9	I feel I am positively influencing other people's lives through my work	424	5.37	79

12	I feel very energetic	350	4.43	79	
17	I can easily create a relaxed atmosphere with my patients	446	5.65	79	
18	I feel exhilarated after working closely with my patients	383	4.85	79	
19	I have accomplished many worthwhile things in this job	404	5.11	79	
21	In my work, I deal with emotional problems very calmly	414	5.24	79	
	Total Personal Accomplishment	3284	4.95	664	-> a few times a week

Table 4.28 illustrates the sum of personal accomplishment and the average of each question that falls under this subdivision. In this subdivision, a higher score indicates higher personal accomplishment. The average of all participants was **4.95**, thus indicating that as a group the participants experienced personal accomplishment a few times a week. Question 17, "I can easily create a relaxed atmosphere with my patients" showed the highest score, with an average of 5.65, indicating that participants felt like this every day. The lowest-scored question in this subdivision (question 12), "I feel very energetic", scored **4.43**, indicating that participants only felt very energetic once a week.

4.6 Demographic Factors Related to Burnout

4.6.1 Female vs Male

The data for burnout was divided into females and males to compare burnout between these two groups.

A. Emotional Exhaustion

Emotional exhaustion among the female participants was calculated and had an average of **2.06**, showing that the female participants felt emotionally exhausted once a month or less. The questions that had the highest score was question 2, “I feel used up at the end of the work day” (**3.15**). Female participants felt used up at the end of the work day a few times a month. Another question with a high average score was question 1, “I feel emotionally drained from my work” (**2.54**). This result indicates that the female participants felt like this once to a few times a month. The lowest-scoring question was question 16, “working with people directly puts too much stress on me”. Female participants only felt this way a few times a year or less.

Emotional exhaustion among male participants was calculated and had an average of **1.99**, thus male participants felt emotionally exhausted a few times a year. The question with the highest score was question 2, “I feel used up at the end of the work day”. This question scored an average of **2.90**, indicating that male participants felt “used up at the end of the work day” once a month or less. The lowest-scoring question, question 20, “I feel like I am at the end of my rope”, had an average score of **0.87**, indicating that this almost never occurred amongst the male participants

B. Depersonalisation

The average depersonalisation score was **0.90** among female participants. “I feel patients blame me for some of their problems” had the highest score – substantially higher than the other questions in this subdivision. Female participants felt patients blamed them for their problems a few times a year. The lowest scoring question was question 15, “I do not really care what happens to some patients”. This question was substantially lower than the other questions and scored an average of **0.44**, indicating that this never happened.

The male participants’ average depersonalisation score was **1.10**. Again, “I feel patients blame me for some of their problems” was the highest-scoring question, **0.5** higher than the score for female participants. Question 15 also scored the lowest, this time lower than that of the female participants.

With an average score of **0.35**, male participants never felt like they “do not care what happens” to some of their patients.

C. Personal Accomplishment

In this subsection lower scores indicate higher degrees of burnout. Females had an average score of **5.21**. This score indicates that female participants felt that they had high productivity a few times a week. Female participants felt like they can easily create a relaxed atmosphere with their patients almost every day. However, they only felt very energetic once a week, which coincides with their high score of feeling “used up at the end of the work day”.

Male participants had an average score of **5.17**, indicating that male participants also had high productivity a few times a week. Male participants felt like they deal very effectively with their patient’s problems a few times a week.

4.6.2 Age 20-30 vs Age 31+

The different age groups were divided into two relatively equal groups to form a group consisting of younger professionals and more experienced professional respectively to determine which group had higher levels of burnout.

A. Emotional Exhaustion

The 20-30-year group showed an average score of **2**, indicating that the young professionals felt emotionally exhausted once a month or less. This group also had higher scores for questions 1 and 2, “I feel emotionally drained from my work” and “I feel used up at the end of the work day”, respectively. Even though these questions had the highest scores, these scores were still relatively low, with such feelings only being experienced a few times a month. The young professionals had

one very low score, which was for question 20, “I feel like I’m at the end of my rope”. This feeling only occurred a few times a year or less.

The more experienced group of participants in the group 31+ years also had a very low average score of **2.05**. The highest scoring question, “I feel used up at the end of the work day”, scored almost double of that of the 20-30-year group.

B. Depersonalisation

In the 20-30 group, the participants felt impersonal feelings towards their patients a few times a year. The average score for this subdivision was **1.09**. This group never felt that they do not care what happens to their patients and felt that patients blamed them for their problems once a month or less.

The average score of the 31+ year group was **0.90**, indicating that they might have felt cynical towards their patients once a year or less. The same questions were scored as highest and lowest, but the total sum of these questions was higher than the 20-30 group.

C. Personal Accomplishment

The 20-30 group had a high average score of **5.13**. The highest scoring question, question 4, “I can easily understand how my patients feel about things”, scored an average of **5.6**, indicating that the 20-30 group understood how their patients felt about things every day. “I feel very energetic” scored the lowest among the 20-30 group, with these participants having felt very energetic a few times a week.

The 31+ group scored **0.11** higher in this subdivision than the 20-30 group. The highest-scoring question in this group was “I can easily create a relaxed atmosphere with my patients”. The lowest scoring question was question 12, “I feel very energetic”.

4.7 Working Characteristic Factors Related to Burnout

4.7.1 Working Experience

The participants were divided into two groups depending on the number of years they had been practicing in the chiropractic profession. There two groups were participants with less than 5 years' experience and participants with more than 5 years' experience. The two groups were equal in number of participants.

A. Emotional Exhaustion

The less experienced group (less than 5 years' experience) had an average score of **1.89** for emotional exhaustion, indicating that these participants experienced emotional exhaustion once a month or less. It is no surprise that question 2, "I feel used up at the end of the work day", was the highest-scoring question among this group, having occurred on average a few times a month.

The more experienced group (more than 5 years' experience) had an average score of **2.53** for emotional exhaustion, indicating that these participants experienced emotional exhaustion a few times a month. With this group, there was no question that a received an especially high or low score – all the questions in this subdivision had similar scores.

B. Depersonalisation

The less experienced group had an average score of **1** and the more experienced group an average of **1.15**, indicating that participants in both these groups felt a sense of cynicism towards their patients a few times a year or less. For the more experienced participants, question 5, "I have become more callous toward people since I took this job", scored the highest, whereas the less experienced group

had the highest average score for question 22, “I feel patients blame me for some of their problems”, having experienced this feeling at least once a month.

C. Personal Accomplishment

There was a small difference between the two groups when it came to personal accomplishment. The less experienced group had an average score of **5.13** and the more experience group had an average score of **5.10**. Both groups were thus personally satisfied with their job a few times a week. The highest-scored question for the less experienced group was “I can easily understand how my patients feel”, which coincides with similar finding regarding the 20-30-year group discussed earlier in this chapter. The more experienced group scored question 17 the highest, which coincides with the 30+ year group’s highest-scoring question in this subdivision discussed.

4.7.2 Primary Reimbursement for Service

The primary reimbursement for services was divided into two groups: cash-fee and medical aid. These two groups were then compared to determine if the participants’ preferred primary reimbursement for their services played a role in burnout.

A. Emotional Exhaustion

Those participants that preferred cash fees as payment method had an average score of **2.15**, indicating that they felt emotionally exhausted once a month or less. These participants felt “used up at the end of the work day” a few times a month and, once a year, these participants felt like they are at the “end of [their] rope”.

The participants that preferred using medical aid had an average score of **1.75**. These participants felt emotionally exhausted a few times a year. This group overall had very low scores for all the

questions in this subdivision. These participants felt “used up at the end of the work day” a few times a month and at the “end of [their] rope” a few times a year.

B. Depersonalisation

The cash fee group had an average score of **1.05** and the medical aid group had an average score of **0.82**, indicating that both groups showed symptoms of depersonalisation a few times a year. The cash fee group scored “I have become more callous towards people since I took this job” the highest, whereas the other group scored “I feel patients blame me for some of their problems” as the highest. The lowest-scoring question in both groups, “I do not really care what happens to some patients”, had an average of **0.20**. indicating that both groups never felt like they do not care what happens to their patients.

C. Personal Accomplishment

Participants in the cash fee group had an average score of **5.11** and the medical aid group had an average score of **5.39**. Individuals in both these groups felt a sense of personal accomplishment a few times a week. The highest score for the cash fee group was for “I can easily create a relaxed atmosphere with my patients” and “I feel exhilarated after working closely with my patients” was the lowest-scoring question in this subdivision. The highest score for the medical aid group was for “I can easily understand how my patients feel about things” and “I feel very energetic” was the lowestscoring question in this subdivision.

4.7.3 Practice Ownership

Here participants were divided into two groups: those who owned their own practice and those who did not. These two groups were then compared to each other to see which participants had a higher level of burnout.

A. Emotional Exhaustion

The participants that worked under another chiropractor and did not have their own practice had an average score of **1.7** whereas those who owned a practice had an average score of **2.15** for emotional exhaustion. The former felt emotionally exhausted a few times a year and the latter emotionally exhausted once a month. “I feel used up at the end of the work day” was the highest-scoring question in both groups, having occurred a few times a month. “I feel like I’m at the end of my rope” was the lowest-scoring question in both groups, indicating that both these groups felt this way less than a few times a year.

B. Depersonalisation

When it comes to depersonalisation the participants who owned their own practice scored slightly lower than those who worked under another chiropractor. The former scored **0.90** and the latter scored **1.0**, showing that both groups felt a sense of cynicism towards their patients a few times a year. The participants that did not own a practice worried that the chiropractic job was hardening them emotionally at least once a month. The participants that owned a practice felt like patients blamed them for some of their problems at least once a month. The lowest-scoring question in both groups was question 15, “I do not really care what happens to some of my patients”. This question had a very low average score and indicated that participants in both groups never felt like they do not care what happens to their patients.

C. Personal Accomplishment

Participants that owned a practice had an average score of **5.23** and those who did not own a practice had a score of **5.0**, indicating that those who had their own practice felt more satisfied with their work. Both groups scored high in personal accomplishment, indicating that they felt satisfied and accomplished a few times a week. “I can easily understand how my patients feel about things” scored high among those who did not own a practice. “I can easily create a relaxed atmosphere with my

patients” scored high among those who owned a practice. The participants that did not own a practice struggled to deal with emotional problems in the work place calmly. The others only felt energetic once a week.

4.7.4 Time Dedicated to Clinical Care

Participants were divided into two groups: those who spent more than 75% of their time on clinical care and those who spent less than 75% of their time on clinical care. These two groups were then compared to each other to determine which group had higher levels of burnout.

A. Emotional Exhaustion

Participants who spent less than 75% of their time on clinical care had an average score of **1.78**, while those who spent more time on clinical care had an average score of **2.35**. Participants felt emotionally exhausted once a month or less. Both groups had very high scores for “I feel used up at the end of the work day”, indicating that they felt this way once a week. The lowest scores for both groups was for question 20, “I feel like I’m at the end of my rope”; they felt this way only a few times a year or less.

B. Depersonalisation

Participants that spent less time on clinical care had an average score of **0.81**, indicating that these participants almost never had a sense of depersonalisation. The group that spent more time on clinical care had an average score of **2.35**. These participants felt a sense of cynicism towards their patients at least once a month. Both these groups felt like they have become more callous towards people since they took this job.

C. Personal Accomplishment

The personal accomplishment score for those who spent less than 75% of their time on clinical care was **5.18** and those who spent more than 75% of their time on clinical care had a score of **5.21**. Both these groups experienced personal accomplishment a few times a week. Both groups felt like they can easily create a relaxed atmosphere with their patients. Again, both groups only felt very energetic once a week.

4.7.5 Time Dedicated to Administrative Duties

The participants were divided into two groups: those who spent less than 25% of their time on administrative duties and those who spent more than 25% on administrative duties. These two groups were then compared to each other to determine which group had higher levels of burnout.

A. Emotional Exhaustion

Participants who spent less than 25% on administrative duties had an average score of **1.89**, whereas those who spent more than 25% on administrative duties had an average score of **2.42**. The former felt emotionally exhausted a few times a year whereas the latter felt emotionally exhausted once a month and more emotionally drained from their work.

Participants in the group that spent less than 25% of their time on administrative work had an average score of **0.85** whereas those in the group that spent more than 25% of their time of administrative work had an average score of **1.32**. Depersonalisation occurred a few times a year in the latter. "I feel patients blame me for some of their problems" received high scores in both groups. Both groups never felt like they do not care what happens to some of their patients.

C. Personal Accomplishment

Participants in the group that spent less time on administration work had an average score of **5.28** whereas those who spent more time on this task had an average score of **4.97**. The difference between these two groups is that the former felt personal satisfaction a few times a week whereas the latter felt personal satisfaction once a week. The first group also felt they dealt very effectively with their patients' problems, but they did not feel exhilarated after working closely with their patients

4.7.6 Hours Worked per Week

Participants were divided into two groups: those who worked less than 40 hours a week and those who worked more than 40 hours a week. These two groups were then compared to each other to determine which group had higher levels of burnout.

A. Emotional Exhaustion

Participants in the less than 40 hours a week group had an average score of **1.81** and those who worked more than 40 hours had an average score of **2.32**. Those in the second group experienced emotional exhaustion once a month whereas those in the less than 40 hours a week group experienced emotional exhaustion a few times a year. "I feel used up at the end of the work day" was the highest-scoring question in both groups, occurring a few times a month for both groups.

B. Depersonalisation

The less than 40 hours a week group scored an average of **0.89** and those in the more than 40 hours group scored **1.09**, thus indicating that those participants that worked fewer hours a week almost never experienced depersonalisation. The participants that worked more than 40 hours a week experienced depersonalisation a few times a year. The highest-scoring question in both groups was

“I feel like patients blame me for some of their problems”. The lowest-scoring question for both groups was “I do not really care what happens to some of my patients”.

C. Personal Accomplishment

The less than 40 hours a week group had an average score of **5.21** and those who worked more than 40 hours a week scored **5.17**, indicating that both groups had high personal satisfaction in their job. Both groups felt that they can easily create a relaxed atmosphere with their patients.

4.8 Chiropractic Characteristic Factors Related to Burnout

4.8.1 Varying Philosophical Perspectives Within the Chiropractic Profession

The participants were divided into two groups: those who agreed that various philosophical perspective played a role in burnout and those who did not. These two groups were then compared to each other to determine which group had higher levels of burnout.

A. Emotional Exhaustion

Participants who disagreed had an average score of **1.67** whereas those who agreed had an average score of **2.76** for emotional exhaustion. These findings indicate that participants who agreed experienced emotional exhaustion a few times a month. Both groups had the highest scores for question 2, “I feel used up at the end of the work day”.

B. Depersonalisation

Participants in the group who disagreed scored an average of **0.80** for this subdivision. Those in the other group scored an average of **1.33**. The latter group experienced depersonalisation a few times a year whereas the former almost never experienced depersonalisation. Interestingly, the participants who agreed worried that the chiropractic job was hardening them emotionally.

C. Personal Accomplishment

Participants who disagreed scored an average of **5.27** and those who agreed scored an average of **5.04**. The participants with the lower levels of personal accomplishment felt less energetic than those who scored higher levels of personal accomplishment.

4.8.2 Public Perception of Chiropractors

The participants were divided into two groups: those who agreed that they had an increased sense of burnout due to the public's perception of chiropractors and a those who disagreed. These two groups were then compared to each other to determine which group had higher levels of burnout.

A. Emotional Exhaustion

Participants who disagreed had an average score of **1.55** and those who agreed had an average score of **2.54**. The participants who had increased sense of burnout due to the public's perception of chiropractors felt emotionally exhausted a few times a month. These participants also felt emotionally drained from their work.

B. Depersonalisation

The average score for the participants who disagreed was **0.81** and those who agreed had **1.16**. The participants in the latter group felt a sense of depersonalisation towards their patients a few times a week. These participants also worried that their job was hardening them emotionally, but they never felt like they do not care what happens to some of their patients.

C. Personal Accomplishment

The average score for those who disagreed was **5.35** whereas those who agreed had an average score of **5.03**. Both groups only felt energetic once a week. The participants in both groups experienced personal accomplishment and job satisfaction a few times a week.

4.8.3 Work-Related Injury

The participants were asked if they felt like a work-related injury increased their sense of burnout. Those who said agreed were grouped together and those who disagreed were grouped together. These two groups were then compared to determine who had higher burnout.

A. Emotional Exhaustion

The participants that had an increased sense of burnout due to a work-related injury had an average score of **2.53** whereas those who did not had an average score of **1.81**. These results indicate that participants with a work-related injury suffered from emotional exhaustion a few times a month. However, these participants also disagreed that working with people directly put too much stress on them. Those who disagreed had lowest scores for question 20, "I feel like I am at the end of my rope". Both groups had a high score for question 2, "I feel used up at the end of a work day".

B. Depersonalisation

The participants who agreed scored an average of **1.33** and those who disagreed scored an average of **0.83** for depersonalisation. Participants with the higher average felt a sense of cynicism towards their patients a few times a year. This group felt that they treat some patients as if they were impersonal objects a few times a year. Both groups scored question 15, "I do not really care what happens to some of my patients", the lowest.

C. Personal Accomplishment

Those who had increased sense of burnout due to work-related injury scored lower in the personal accomplishment subdivision, with an average score of **5.15**. The other group scored an average of **5.22**. Both groups had high personal accomplishment, occurring few times a week. "I feel very energetic" was given low scores in both groups.

4.8.4 Self-Identification of Burnout

Participants were asked if they thought they had symptoms of burnout. The participants were divided into two groups: those who thought that they do have symptoms of burnout and those who did not. These two groups were then compared to each other to determine which group had higher levels of burnout.

A. Emotional Exhaustion

Participants who agreed had an average score of **3.02** and those who disagreed had an average score of **1.28**. The participants in the first group indicated that they felt emotionally drained from their work almost once a week. This group also felt emotionally exhausted a few times a month, with the other group having felt this way a few times a year.

B. Depersonalisation

Those who identified as having burnout scored an average of **1.44** and those who did not had an average score of **0.63**. These findings indicate that the second group almost never suffered from depersonalisation whereas the first group experienced depersonalisation a few times a year. Those in the first group worried that the chiropractic job was hardening them emotionally. Both groups felt like their patients blamed them for some of their problems.

C. Personal Accomplishment

The participants in the first group scored an average of **4.95** and those in the second group scored an average of **5.38**. There is a big difference in this subdivision between these two groups. The participants in the second group dealt very effectively with their patient's problems. Both groups indicated that they only felt very energetic a few times a month.

4.9 Conclusion

The results gathered from the data was presented in this chapter. A more in-depth discussion on these results will be given in the following chapter.

CHAPTER 5: DISCUSSION

5.1 Introduction

The results with their respectable tables and figures given in chapter 4 will be discussed in this chapter, paying particular attention to those results that were significant. The previous literature discussed in chapter 2 and additional applicable research will be related to the findings of this study.

The main objective of this study was to research the prevalence of burnout and its ability to negatively affect chiropractors in South Africa. The results of this study are mostly consistent with the findings from the study done on chiropractors in America (Williams and Zipp, 2014).

5.2 Demographics

There were only **31** male participants in the study; **22%** more females than males took part. For every male participant there was thus **1.5** female participants. Forty percent of the female participants were in the age group 20-30 years and **35%** were in the age group 31-40 years. A quarter, **25%**, were in the age group 41-50. Interestingly, there were no female participants in the age groups 51-60 and 61-70.

Male participants were more equally distributed in the different age groups. Most male participants (**42%**) were in the age group 20-30, **19%** were between 31-40, **26%** between 41-50 and **13%** fell into the last two groups, which collectively ranged from 51-70.

This data indicates that more females in recent years have entered the chiropractic profession. The data also indicates that there are more younger professionals than experienced professionals. Participants that fell in the age group 20-30 made up **41%** of all participants that took part in this study. Individuals in this age group were all newly qualified chiropractic professionals, indicating that chiropractic is a growing profession.

The geographic distribution of participants coincides with the location of the largest cities of South Africa: **56%** participants were in Gauteng, **24%** in KwaZulu-Natal and **11%** in the Western Cape. The other **9%** were equally distributed over Limpopo, Mpumalanga, Free State and Eastern Cape.

5.2.1 Demographic Factors Related to Burnout

A. Male vs Female

Female participants had higher levels of emotional exhaustion and personal accomplishment and lower levels of depersonalisation than male participants. The difference between males and females when calculating the averages for the subdivisions was **0.07** for emotional exhaustion, **0.20** for depersonalisation and **0.04** for personal accomplishment. The differences between these two groups are small, but there was a significant difference between the number of male and female participants. As such, male participants had higher levels of burnout. The results coincide with the study done on chiropractors in America. That study, done in 2013, indicates that females have higher levels of personal accomplishment and lower levels of depersonalisation (Williams and Zipp, 2014).

B. Age 20-30 vs Age 31+

The 20-30-year group had higher levels of depersonalisation and lower levels of emotional exhaustion and personal accomplishment. This difference between 20-30 and 31+ group when calculating the averages of the subdivisions was **0.05** for emotional exhaustion, **0.19** for depersonalisation and **0.11** for personal accomplishment. These figures indicate that the young professionals had higher levels burnout – a finding that coincides with previous literature stating that young professionals are at higher risk of developing burnout. Older individuals demonstrate more maturity and stability and have a more balanced perspective on life, thus they are less prone to burnout (Williams and Zipp, 2014). In this study, an increase in age tends to decrease depersonalisation.

5.3 Working Characteristics

Table 4.4 illustrates the number of years the participants had been in the chiropractic profession. Just under half (**49%**) had only been in the profession for 0-5 years. This group had more participants than the groups 6-10, 11-15 and 16-20 years combined. The 16-20-years group only had **6%** of all participants. Participants in groups 0-5, 6-10 and 11-15 were predominantly female, indicating that more females have entered the chiropractic profession in recent years. It also indicates that more individuals in total have entered the chiropracting profession in recent years, showing that chiropractic is a growing profession.

When it comes to practice setting, as shown in Table 4.5, the participants were equally distributed between acute (**30%**), subacute (**28%**), chronic (**24%**) and wellness (**18%**). Female participants were especially well distributed between acute (**25%**), subacute (**29%**) and chronic (**33%**). Thirty-nine percent of male participants preferred an acute setting. Interestingly, only **10%** of male participants worked in a chronic setting. More male participants (**26%**) preferred a wellness setting than their female counterparts.

As shown in Table 4.6, 55 out of the **79** participants preferred cash fees for their treatment. Only **30%** of participants used medical aid reimbursement for their treatment. Just under a third (**31%**) of female participants and **29%** of male participants used medical aid as payment option. There are more administrative duties when it comes to claiming from the medical aid and it is more time consuming for participants, taking away time spent on clinical care. Thus, it is clear why participants prefer cash fee payment from their patients.

As shown in Table 4.7, **68%** of participants worked as a sole practitioner. Fifteen percent worked in a group practice and **13%** worked with an associate. Table 4.8 shows that **80%** of participants owned their own practice. The results from these two questions indicate that most participants preferred to work on their own – perhaps owing to economic reasons. When working in a group practice or with an associate, individuals only get a percentage of the consultation fee. Owning a practice means that the individual will receive the full amount and a percentage of the associate's or other

chiropractor's contribution. The **20%** of participants that did not own their own practice were recently qualified and young professionals that perhaps first wanted to gain some experience and build up their own patient base.

Table 4.10 and 4.11 are related, illustrating the time dedicated to clinical and administrative duties respectively. The majority of participants (**44%**) spent more than 76% of their time on clinical care, while **34%** of participants spent between 51%-75% of their time on clinical care. Nearly three-quarters (**73%**) of all participants spent less than 25% of their time on administrative duties. Only a small percentage of participants (**8%**) spent less than 25% of their time on clinical care and **5%** of participants spent more than 76% of their time on administrative duties. The participants that spent more than 76% of their time on administrative duties and less than 25% on clinical care were mainly female, indicating that females spent more time on administrative and managerial tasks. Less time spent on clinical care by female participants can also be due to family responsibilities. That small percentage of participants that spent less time on clinical care could also have been more involved in the academic side of the profession.

Table 4.12 shows the number of hours worked per week. Those who worked more than 40 hours per week and those who worked 21-40 hours per week were the two biggest groups and only differed by one participant. Forty-three percent of participants worked more than the average 40-hour week and **42%** of participants worked between 21-40 hours. Of those who worked more than 40 hours a week, **59%** were male, whereas **70%** of participants who worked 21-40 hours a week were female. Females were also predominant in the group that worked less than 20 hours a week, with only one male participant in this group. This finding indicates that males worked longer hours per week and that females worked less hours per week, perhaps due to family responsibility.

The average number of patients the participants saw per day is illustrated in Table 4.13. Two-thirds (**66%**) of participants, mainly females, saw 10 or fewer patients per day. This low number is perhaps due to family responsibility or new entrants in the chiropractic profession. The remaining groups, 11-20, 21-30 and 31-40, were predominantly male. Only **1.3%** of participants saw between 31-40 patients per day. This data correlates to the average number of patient visits per week (Table 4.14).

Seventy percent of participants saw 50 or fewer patients per week. This group was predominantly female. Twenty-five percent of participants saw between 51-100 patients per week. In this group, **35%** were female and **65%** were male. Only **5%** of all participants saw more than 100 patients per week, and of these, only one participant was female. The number of hours worked per week and the average patient visits per week correlate with each other and indicate that male participants worked longer hours and saw more patients per week.

5.3.1 Working Characteristic Factors Related to Burnout

A. Work Experience

The more experienced group (>5 years) had higher levels of emotional exhaustion and depersonalisation and lower levels of personal accomplishment. The differences between the more experienced and the less experience groups when calculating the averages for the subdivisions was **0.64** for emotional exhaustion, **0.15** for depersonalisation and **0.03** for personal accomplishment. These figures indicate that the more experienced professionals had higher levels of burnout. This finding differs from pervious literature. According to Maslach, age is related to work experience and therefore burnout is a risk earlier in an individual's career (Maslach, 2017).

B. Primary Reimbursement for Service

The cash fee group had higher levels of emotional exhaustion and depersonalisation and lower levels of personal accomplishment. The difference between the cash fee and the medical aid groups when calculating the averages for the subdivisions was **0.40** for emotional exhaustion, **0.23** for depersonalisation and **0.28** for personal accomplishment. These figures indicate that the cash fee group had higher levels of burnout. The data differs from the study done in America, in 2013, where the cash fee group had significantly lower emotional exhaustion and depersonalisation scores and higher personal accomplishment scores (Williams and Zipp, 2014). The reason for difference between the two studies is perhaps that there were **55** participants that preferred cash fee and only

24 participants that worked through the medical aid. The groups were not equally distributed, which affected the results.

C. Practice Ownership

The participants that owned a practice had higher levels of emotional exhaustion and personal accomplishment but lower levels of depersonalisation than those who did not own a practice. The difference between the groups when calculating the averages for the subdivisions was **0.45** for emotional exhaustion, **0.10** for depersonalisation and **0.23** for personal accomplishment. These figures indicate that both groups had similar levels of burnout. However, those who owned a practice had significantly higher emotional exhaustion. The data coincides with the research done in America with regards to participants owning a practice having lower levels of depersonalisation. The difference between these two sets of data is those who own a practice in America have higher levels of burnout whereas those who have a practice in South Africa have the same level of burnout as those who do not own a practice (Williams and Zipp, 2014). Chiropractors in South Africa that own a practice have higher levels of emotional exhaustion than those who own a practice in America.

D. Time Dedicated to Clinical Care

The participants who dedicated more than 75% of their time to clinical care had higher levels of emotional exhaustion, depersonalisation and personal accomplishment than those who spent less than 75% of their time on clinical care. The difference between the two groups when calculating the averages for the subdivisions was **0.57** for emotional exhaustion, **1.54** for depersonalisation and **0.03** for personal accomplishment. These figures indicate that the group that spent more than 75% of their time on clinical care had higher levels of burnout. There is a significant difference between emotional exhaustion and depersonalisation scores between the two groups. The group that spent more than 75% of their time on clinical care group felt more used up at the end of the work day and worked with more patients a day, which could have led to higher levels of emotional exhaustion and in turn to depersonalisation toward patients. When comparing this data to that from America, personal accomplishment scores correlate. The difference between these two sets of data is that emotional

exhaustion and depersonalisation levels of the chiropractors in America were negatively related to those who spent more time on clinical care (Williams and Zipp, 2014).

E. Time Dedicated to Administrative Duties

The participants who spent more than 25% on administrative duties had higher levels of emotional exhaustion and depersonalisation and lower levels of personal accomplishment than those who spent less time on administrative duties. The difference between the two groups when calculating the averages for the subdivisions was **0.54** for emotional exhaustion, **0.47** for depersonalisation and **0.31** for personal accomplishment. These figures indicate that those who spent more time on administrative duties had higher levels of burnout. This finding coincides with data from chiropractors in America, which indicates that those who spend more time on administrative duties had lower levels of personal accomplishment and higher levels of emotional exhaustion and depersonalisation (Williams and Zipp, 2014).

F. Hours Worked per Week

The participants who worked more than 40 hours a week had higher levels of emotional exhaustion and depersonalisation and lower levels of personal accomplishment. The difference between the two groups when calculating the averages for the subdivisions was **0.51** for emotional exhaustion, **0.20** for depersonalisation and **0.04** for personal accomplishment. These figures indicate that those who worked more than 40 hours a week had higher levels of burnout than those who worked 40 hours a week or less. When comparing the data to the data from the American study, both sets show that an increase in work hours per week increases the level of emotional exhaustion (Williams and Zipp, 2014).

5.4 Chiropractic Characteristics

Table 4.15 illustrates that **33%** of participants felt like the varying philosophical perspectives within the chiropractic professions played a role in their sense of burnout. Sixty-nine percent of the **26**

participants that agreed that varying philosophical perspectives increased burnout were female and only 31% were male. Different perspectives between chiropractors causes judgement towards one another to some degree (Copper and McKee, 2003), which increases the level of burnout.

The public's perception of chiropractors is another chiropractic-specific factor that contributes to burnout. Table 4.16 illustrates that 48% of participants had increased sense of burnout due to the negative public perception of chiropractors. Again, more female participants (66%) agreed that the public's perception of chiropractors contributed to their sense of burnout. The factor is possibly related to the fact that chiropractic profession has only been in South Africa for the last 30 years and is a growing profession.

Chiropractic is a hands-on profession and work-related injury has been identified as a factor that could contribute to burnout. Table 4.17 shows that only 30% of participants had had a work-related injury that increased their sense of burnout. Again, more females (71%) agreed with this question than the male participants (29%).

Lastly, participants were asked if they felt like they had any symptoms of burnout. Table 4.18 illustrates that 43% of participants identified themselves as having burnout. Out of the 34 participants that agreed, 62% were female and 38% were male.

5.4.1 Chiropractic Characteristic Factors Related to Burnout

A. Varying Philosophical Perspectives Within the Chiropractic Profession

The participants who thought that varying philosophical perspectives within the profession increased their sense of burnout had significantly higher levels of emotional exhaustion and depersonalisation and lower levels of personal accomplishment. The difference between the two groups when

calculating the averages for the subdivisions was **1.09** for emotional exhaustion, **0.53** for depersonalisation and **0.23** for personal accomplishment. These figures indicate that the participants that had an increase sense of burnout due to varying philosophical perspectives had significantly higher levels of burnout, especially symptoms of emotional exhaustion. The data coincides with the study done in America. The only difference between these two sets of data is that the chiropractors in America had significantly lower levels of personal accomplishment whereas the difference in the levels of personal accomplishment between the two groups in South Africa was very slight (Williams and Zipp, 2014).

B. Public Perception of Chiropractors

The participants that had increased sense of burnout due to the public's perception of chiropractors had significantly higher levels of emotional exhaustion, moderately higher levels of depersonalisation and lower levels of personal accomplishment. The difference between the two groups when calculating the averages for the subdivisions was **0.99** for emotional exhaustion, **0.35** for depersonalization and **0.32** for personal accomplishment. The participants who were affected by the public's perception had higher levels of burnout than those not affected by the public's perception. The data of this study coincides with the data from the American study. Moreover, there is some degree of negative perception from the public towards the chiropractic profession, seen more in the older population (Williams and Zipp, 2014).

C. Work-Related Injury

The participants who had increased burnout due to a work-related injury had higher levels of emotional exhaustion and depersonalisation and lower levels of personal accomplishment. The difference between the two groups when calculating the averages for the subdivisions was **0.72** for emotional exhaustion, **0.50** for depersonalisation and **0.07** for personal accomplishment. These figures indicate that those with a work-related injury had higher levels of burnout. The data of this study coincides with that of the American study (Williams and Zipp, 2014).

D. Self-Identification of Burnout

The participants who identified themselves as having symptoms of burnout had significantly higher levels of emotional exhaustion and depersonalisation and significantly lower levels of personal accomplishment. The difference between the two groups when calculating the averages for the subdivisions was **1.74** for emotional exhaustion, **0.81** for depersonalisation and **0.43** for personal accomplishment. There was a significant difference in the subdivision scores between these two groups. The participants who felt like they have burnout showed remarkably high scores in emotional exhaustion and depersonalisation and very low scores in personal accomplishment. Self-identification of burnout is the highest factor that contributes to overall burnout. The data correlates with the American study. Those who identified themselves as having burnout also had significantly higher emotional exhaustion and depersonalisation and lower personal accomplishment (Williams and Zipp, 2014).

5.5 Burnout

When looking at burnout it is important to consider the three subdivisions that lead to burnout. Table 4.23 shows that **12.7%** of all participants had high levels, **36.7%** of participants had moderate levels and **50.6%** of participants had low levels of emotional exhaustion. This finding is significant as it indicates that although half of the participants may have been feeling emotionally exhausted, and emotional exhaustion is considered the core element of burnout (Cordes and Dougherty, 1993), their exhaustion does not appear to be affecting their personal accomplishment and the way they treat their patients.

Table 4.24 shows that **0%** of participants had high levels, **7.6%** moderate and **92.4%** low levels of depersonalisation. Lastly, Table 4.24 shows that **0%** of participants had low levels, **6%** moderate levels and **94%** high levels of personal accomplishment.

When comparing the data to that from the American study, South African chiropractors have lower levels of emotional exhaustion and depersonalisation and higher levels of personal accomplishment. The American study showed that **19%** of participants had moderate levels and **21%** had high levels of emotional exhaustion. As such, **8.3%** more chiropractors in America have high levels of emotional exhaustion than the number of South African chiropractors. There is also an **18%** difference in the level of personal accomplishment between South African and American chiropractors. Nevertheless, the presence of high emotional exhaustion should remain a concern for the chiropractic profession given the negative consequences that emotional exhaustion has on individual's health and job performance (Maslach et al., 2001).

The current study shows that the participants who spent more time on administrative duties and those who worked longer hours had a greater tendency towards higher burnout scores. Those participants who owned their own practice, who had been working longer in the chiropractic profession and who used cash fee as their primary reimbursement also had predisposition toward higher burnout sub-scores. Cash fee could increase burnout due the stressors that exist with the administrative challenges of billing and collections.

There were chiropractic-specific factors that appeared to have had a negative effect on the participants' burnout sub-scores, including the following: those experiencing the antagonistic philosophical perspectives within the chiropractic profession, dealing with negative public opinions of the chiropractic profession and having a work-related injury that could be due to the physical demands of manual therapy.

A sociodemographic factor that also contributed to burnout is age. Higher levels of burnout were seen among workers younger than 30 years. According to Maslach and Jackson, with an increase in age, individuals become more stable and mature and find a more balanced routine and thus are less prone to burnout (Maslach and Jackson, 1982). Maslach and Jackson also suggest that age is often confused with work experience and burnout appears to be more of a risk earlier in one's career (Maslach and Jackson, 1982).

Gender in this study was also a predictor of burnout, with females showing lower levels of burnout but significantly higher levels of emotional exhaustion and depersonalisation. This finding could be owing to the fact that the majority of participants in the study were female. It also differs from other literature that argues burnout is predominantly a female experience (Maslach et al., 2001).

Overall, the sample of participants showed lower emotional exhaustion and depersonalisation and higher personal accomplishment than other medical professions such as physical therapy, nursing, occupational therapy, medical specialists and dentistry who have been evaluated using the MBIHSS.



CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The objective of this study was to research the prevalence of burnout and its possible effect on chiropractors in South Africa. The return rate of this study was **12%**. In other literature, the average return rate of web-based surveys ranges between **11%** and **15.4%** (Blumberg and Luke, 2009). Only **2.5%** of the sample displayed symptoms of severe burnout that may lead to negative effects on the patient-practitioner relationship. Another **2.5%** of the sample had high levels of burnout and **5%** of the sample had moderate burnout. Overall, only **10%** of the chiropractors in this study showed symptoms of burnout. The findings from this study indicate that the prevalence of burnout among the group of chiropractors who participated in this survey was exceptionally low.

The secondary objective of this study was to compare burnout of chiropractors in South Africa with chiropractors in other countries. It is encouraging to see that chiropractors in South Africa have significantly lower levels of burnout compared to other healthcare professionals. Chiropractors in South Africa also have remarkably lower levels of burnout compared to chiropractors in America.

However, although this group of chiropractors have lower levels of burnout compared to other healthcare professionals, their high levels of emotional exhaustion remain a concern and workplace issue for the chiropractic profession. Emotional exhaustion is the core subdivision for burnout. The increased levels among the chiropractic participants may ultimately increase the incidence of burnout in the profession. It may also lead to unprofessionalism, poor job performance, absenteeism and a decrease in organisational commitment, which in turn could negatively affect the patient-practitioner relationship.

Statistically significant relationships were found between burnout subdivisions and the effect of sex, age, time devoted to administrative duties and clinical care, source of reimbursement, experience, owning a practice, the effect of suffering from a work-related injury, varying chiropractic philosophical perspectives, the public's perception of chiropractic and self-perception of burnout.

This study contributed to the understanding of the prevalence of burnout and its potential impact on the chiropractic profession.

6.2 Recommendations

The following recommendations should be taken into consideration for future research regarding the prevalence of burnout among chiropractors in South Africa:

- A larger sample size to provide more accurate information and relevance to the chiropractic population in South Africa.
- Motivation for chiropractors to participate in the study.
- Changes to the demographic questionnaire to make it more relevant to chiropractors in South Africa.
- Updating contact information of registered chiropractors to ensure that more chiropractors can be reached to participate in the study.
- Longer time period for chiropractors to respond to the survey.
- Modification of survey to decrease the rate of incomplete surveys.
- Further investigation of the variables that were associated with burnout.

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APPENDIX A: INVITATIONAL EMAIL

The Prevalence of Burnout Among Doctors of Chiropractic In South Africa

Greetings Doctor

My name is Francis Collatz. I'm a master's student of Chiropractic at the University of Johannesburg. I'm doing my research on the prevalence of burnout among chiropractors in South Africa. Attached is an informational letter about the study that contains some of the questions that you might have pertaining to this study. The study consists of a 22 Likert- Scale questionnaire and a demographic questionnaire which you can find following this link

[LINK](#)

It would be hugely appreciated if you could take 10 minutes to answer this questioner. Your participation will help identify factors that cause burnout among chiropractors which in turn help generate awareness and methods on improving the quality of professional life for doctors of chiropractic. If you have any questions, please feel free to e-mail (francis.collatz@gmail.com) or phone (0724254860) me.

Kind Regards.

Francis Collatz.



APPENDIX B: INFORMATION LETTER



DEPARTMENT OF CHIROPRACTIC RESEARCH STUDY INFORMATION LETTER

2018

Good Day

My name is Francis Collatz. **I WOULD LIKE TO INVITE YOU TO PARTICIPATE** in a research study on the prevalence of burnout among chiropractors in South Africa.

Before you decide on whether to participate, I would like to explain to you why the research is being done and what it will involve for you. **You can read through the information letter and email me any questions you might have.** This should take about 10 to 20 minutes. The study is part of a research project being completed as a requirement for a Master's Degree in Chiropractic through the University of Johannesburg.

THE PURPOSE OF THIS STUDY is to determine the prevalence of burnout among chiropractors in South Africa, which measures the following, emotional exhaustion, depersonalization and personal achievement.

Below, I have compiled a set of questions and answers that I believe will assist you in understanding the relevant details of participation in this research study. Please read through these. If you have any further questions, I will be happy to answer them for you.

DO I HAVE TO TAKE PART? No, you don't have to. It is up to you to decide to participate in the study. If you agree to take part, I will then ask you to sign a consent form.

WHAT EXACTLY WILL I BE EXPECTED TO DO IF I AGREE TO PARTICIPATE? Answer an online 22 Likert- Scale questionnaire and demographic questionnaire.

WHAT WILL HAPPEN IF I WANT TO WITHDRAW FROM THE STUDY? If you decide to participate, you are free to withdraw your consent at any time without giving a reason and without any consequences. If you do not wish to participate in this study, you may simply ignore/delete this email.

IF I CHOOSE TO PARTICIPATE, WILL THERE BE ANY EXPENSES FOR ME, OR PAYMENT DUE TO ME: You will not be paid to participate in this study nor will you have any expenses.

RISKS INVOLVED IN PARTICIPATION: There are no risks involved in participating.

BENEFITS INVOLVED IN PARTICIPATION: Help identify factors that cause burnout in chiropractors and in turn address these factors to prevent burnout of chiropractors.

WILL MY PARTICIPATION IN THIS STUDY BE KEPT CONFIDENTIAL? Yes. No names will be required or filled in when completing the questionnaire. All data and back-ups thereof will be kept in password protected folders and/or locked away as applicable. Only I or my research supervisor will be authorised to use and/or disclose your anonymised information in connection with this research study. Any other person wishing to work with you anonymised information as part of the research process (e.g. an independent data coder) will be required to sign a confidentiality agreement before being allowed to do so.

OR

WILL MY TAKING PART IN THIS STUDY BE ANONYMOUS? Yes. Anonymous means that your personal details will not be recorded anywhere by me. As a result, it will not be possible for me or anyone else to identify your responses once these have been submitted.

WHAT WILL HAPPEN TO THE RESULTS OF THE RESEARCH STUDY? The results will be written into a research report that will be assessed. In some cases, results may also be published in a scientific journal. In either case, you will not be identifiable in any documents, reports or publications. You will be given access to the study results if you would like to see them, by contacting me.

WHO IS ORGANISING AND FUNDING THE STUDY? The study is being organised by me, under the guidance of my research supervisor at the Department of Chiropractic in the University of Johannesburg. This study will receive a supervisor lined bursary to cover all possible costs.

WHO HAS REVIEWED AND APPROVED THIS STUDY? Before this study was allowed to start, it was reviewed in order to protect your interests. This review was done first by the Department of Chiropractic, and then secondly by the Faculty of Health Sciences Research Ethics Committee at the University of Johannesburg. In both cases, the study was approved.

WHAT IF THERE IS A PROBLEM? If you have any concerns or complaints about this research study, its procedures or risks and benefits, you should ask me. You should contact me at any time if you feel you have any concerns about being a part of this study. My contact details are:

Francis Collatz
07244254860
francis.collatz@gmail.com

You may also contact my research supervisor: Dr. M. Moodley
mmoodley@uj.ac.za

If you feel that any questions or complaints regarding your participation in this study have not been dealt with adequately, you may contact the Chairperson of the Faculty of Health Sciences Research Ethics Committee at the University of Johannesburg:

Prof. Christopher Stein
Tel: 011 559-6564

Email: cstein@uj.ac.za

FURTHER INFORMATION AND CONTACT DETAILS: Should you wish to have more specific information about this research project information, have any questions, concerns or complaints about this research study, its procedures, risks and benefits, you should communicate with me using any of the contact details given above.

Researcher:

Francis Collatz

0724254860

Francis.collatz@gmail.com



APPENDIX C: RESEARCH CONSENT FORM



DEPARTMENT OF CHIROPRACTIC RESEARCH CONSENT FORM

The prevalence of burnout among chiropractors in South Africa

Please initial each box below:

I confirm that I have read and understand the information letter dated 2018 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

I understand that my participation is voluntary and that I am free to withdraw from this study at any time without giving any reason and without any consequences to me.

I agree to take part in the above study.

Name of Participant

Signature of Participant

Date

Name of Researcher

Signature of Researcher

Date

APPENDIX D: MBI-HSS FOR MEDICAL PERSONNEL

Review Copy: MBI-HSS for Medical Personnel

How often: 0 1 2 3 4 5 6

Never A few Once A few Once A few Every day times a month times a week times
a year or less a month a week or less

How often 0-6 Statements:

1. _____ I feel emotionally drained from my work.

2. _____ I feel used up at the end of the workday.
3. _____ I feel fatigued when I get up in the morning and have to face another
day on the job.
4. _____ I can easily understand how my patients feel about things.
5. _____ I feel I treat some patients as if they were impersonal objects.
6. _____ Working with people all day is really a strain for me.
7. _____ I deal very effectively with the problems of my patients.
8. _____ I feel burned out from my work.
9. _____ I feel I'm positively influencing other people's lives through my
work.
10. _____ I've become more callous toward people since I took this job.
11. _____ I worry that this job is hardening me emotionally.
12. _____ I feel very energetic.
13. _____ I feel frustrated by my job.
14. _____ I feel I'm working too hard on my job.
15. _____ I don't really care what happens to some patients.
16. _____ Working with people directly puts too much stress on me.
17. _____ I can easily create a relaxed atmosphere with my patients.
18. _____ I feel exhilarated after working closely with my patients.
19. _____ I have accomplished many worthwhile things in this job.
20. I feel like I'm at the end of my rope. _____
21. _____ In my work, I deal with emotional
problems very calmly.
22. _____ I feel patients blame me for some of
their problems.

APPENDIX E: DEMOGRAPHIC QUESTIONNAIRE

1. Sex?

- a. Male
- b. Female

2. Age?

- a. 20-30
- b. 31-40
- c. 41-50
- d. 51-60
- e. 61-70
- f. 70+

3. How many years, total, have you been in your profession?

- a. 0-5
- b. 6-10
- c. 11-15
- d. 16-20
- e. 20-25
- f. 25-30
- g. 30+

4. Time dedicated to clinical care?

- a. <25%
- b. 25%-50%
- c. 51%-75%
- d. >76%

5. Time dedicated to administrative duties?

- a. <25%
- b. 25%-50%
- c. 51%-75%
- d. >76%

6. Hours worked per week?

- a. <20 hours

- b. 21-40 hours
 - c. >40 hours
7. Average patient visits per day?
- a. 0-10
 - b. 11-20
 - c. 21-30
 - d. 31-40
 - e. 41-50
 - f. >50
8. Average patient visits per week?
- a. 0-50
 - b. 51-100
 - c. >100
9. Would you identify yourself as having symptoms of burnout presently?
- a. Yes
 - b. No
10. What is your primary practice setting/type?
- a. Acute
 - b. Subacute
 - c. Chronic
 - d. Wellness
11. What is your primary reimbursement for services rendered?
- a. Workman compensation/personal injury
 - b. Cash-fee for services
 - c. Medical aid
12. What is your current job title?
- a. Associate
 - b. Independent contractor
 - c. Sole practitioner
 - d. Group practice

13. Do you own your own practice?
- a. Yes
 - b. No
14. Associate Doctor of chiropractic present?
- a. Yes
 - b. No
15. Has obtaining a work-related injury increased your sense of burnout?
- a. Yes
 - b. No
16. Has the varying philosophical perspectives within the chiropractic profession increased your sense of burnout?
- a. Yes
 - b. No
17. Has public perception of the chiropractic profession increased your sense of burnout?
- a. Yes
 - b. No
18. Location?
- a. Gauteng
 - b. Limpopo
 - c. Free state
 - d. North West
 - e. KwaZulu-Natal
 - f. Mpumalanga
 - g. Eastern Cape
 - h. North Cape
 - i. Western Cape

APPENDIX F: ETHICS CLEARANCE LETTER



FACULTY OF HEALTH SCIENCES RESEARCH ETHICS COMMITTEE

NHREC Registration: REC 241112-035

ETHICAL CLEARANCE LETTER (RECX 2.0)

Student/Researcher Name	Collatz, F	Student Number	201321144
Supervisor Name	Dr M Moodley	Co-Supervisor Name	-
Department	Chiropractic		
Qualification	367		
Research Title	Prevalence of Burnout among Doctors of Chiropractic in South Africa		
Date	3 October 2018	Clearance Number	REC-01-133-2018

Approval of the research proposal with details given above is granted, subject to any conditions under 1 below, and is valid until 31 January 2019.

1. Conditions:

Click to enter conditions, if applicable. If no conditions, enter "None".

2. Renewal:

It is required that this ethical clearance is renewed annually, within two weeks of the date indicated above. Renewal must be done using the Ethical Clearance Renewal Form (REC 10.0), to be completed and submitted to the Faculty Administration office. See Section 12 of the REC Standard Operating Procedures.

3. Amendments:

Any envisaged amendments to the research proposal that has been granted ethical clearance must be submitted to the REC using the Research Proposal Amendment Application Form (REC 8.0) prior to the research being amended. Amendments to research may only be carried out once a new ethical clearance letter is issued. See Section 13 of the REC Standard Operating Procedures.

4. Adverse Events, Deviations or Non-compliance:

Adverse events, research proposal deviations or non-compliance must be reported within the stipulated time-frames using the Adverse Event Reporting Form (REC 9.0). See Section 14 of the REC Standard Operating Procedures.

The REC wishes you all the best for your studies.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'C Stein'.

Prof. Christopher Stein
Chairperson: REC
Tel: 011 559 6564
Email: cstein@uj.ac.za

RECX 2.0 – Faculty of Health Sciences
Research Ethics Committee

Secretariat: Ms Ralieseh Pieterse
Tel: 011 559 6073 email: rpieterse@uj.ac.za

APPENDIX G: HIGHER DEGREES LETTER



FACULTY OF HEALTH SCIENCES

HIGHER DEGREES COMMITTEE

HDC-01-66-2018

27 August 2018

TO WHOM IT MAY CONCERN:

STUDENT: COLLATZ, F
STUDENT NUMBER: 201321144

TITLE OF RESEARCH PROJECT: Prevalence of Burnout among Doctors of Chiropractic in South Africa

DEPARTMENT OR PROGRAMME: CHIROPRACTIC

SUPERVISOR: Dr M Misdley CO-SUPERVISOR:

The Faculty Higher Degrees Committee has scrutinised your research proposal and concluded that it complies with the approved research standards of the Faculty of Health Sciences; University of Johannesburg.

The HDC would like to extend their best wishes to you with your postgraduate studies

Yours sincerely,


Prof H Abrahamse

Acting Chair: Faculty of Health Sciences HDC

Tel: 011 559 6550

Email: j.abrahamse@uj.ac.za

APPENDIX H: SIMILARTITY LETTER



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APPENDIX I: EDITOR'S LETTER

K Gilbertson | 2019

17/04/2019

To whom it may concern,

This letter serves to confirm that the attached dissertation, "The prevalence of burnout among chiropractors in South Africa", has been edited by a qualified language practitioner. For further verification, I may be contacted by email: kellygilbertson@gmail.com or by phone: 0616150292.

Kind regards,

Kelly-Anne Gilbertson

BA (Hons, Cum laude), MA (Cum laude), PhD



1



K. Gilbertson | kellygilbertson8@gmail.com