
CONFERENCE PROCEEDINGS

Battling Burnout: Raising Resilience in Education. Chiropractic Educators Research Forum (CERF), December 2, 2023

Chiropractic Educators Research Forum

ABSTRACT

This conference was convened by the Chiropractic Educators Research Forum (CERF) on December 2, 2023. This conference took a closer look at what chiropractic programs are doing to identify burnout and build student, faculty, and staff resilience in the psychosocial domain. During the meeting, presenters and panelists took an in-depth look at research related to how chiropractic programs are addressing issues in mental health of students, faculty, and staff as this relates to burnout and resilience in the chiropractic program and practice.

Key Indexing Terms: Health Occupations; Education, Professional; Chiropractic; Burnout, Professional; Stress, Psychological; Resilience, Psychological

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INTRODUCTION

The Chiropractic Educators Research Forum (CERF) holds conferences from time to time that focus on selected topics relevant to education and the chiropractic profession. This conference showcases education research, innovations, and best practices and provides a forum for the presentation of scholarly work in health professions education theory and practice.

The CERF held a virtual conference on December 2, 2023 “Battling Burnout: Raising Resilience in Education,” which specifically focused on research related to how chiropractic programs are addressing issues in mental health of students, faculty, and staff as this relates to burnout and resilience in the chiropractic program and practice. During this conference, we discussed what chiropractic programs are doing to identify burnout and build student, faculty, and staff resilience in the psychosocial domain.

For the purposes of this conference we used the ICD-11 definition “Burn-out is a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions:

- feelings of energy depletion or exhaustion;
- increased mental distance from one’s job, or feelings of negativism or cynicism related to one’s job; and
- reduced professional efficacy.

Burn-out refers specifically to phenomena in the occupational context and should not be applied to describe experiences in other areas of life.”¹

We considered resilience to be “the process and outcome of successfully adapting to difficult or challenging life experiences, especially through mental, emotional, and behavioral flexibility and adjustment to external and internal demands.”²

After abstracts were submitted and went through a rigorous peer-review process, the highest quality abstracts were selected for presentation that were relevant to the intersection of these 3 areas: chiropractic, education, and the conference theme (ie, burnout, mental stress, and/or resilience). As we have done with prior CERF conferences,^{3–8} this conference proceedings includes links to the video presentations so that these presentations may be preserved and more widely distributed. The peer reviewed presentations from the conference held on December 2, 2023 are listed here in alphabetical order by the first author’s last name.

ABSTRACT PRESENTATIONS

Resilient responses to stressful events among chiropractic students: A cross-sectional survey

Kira Baca, Dustin Derby, Stacie Salsbury

Objectives: The objective of this study was to explore the relationships among responses to stressful experiences, perceived stress, quality of life, and resilience

among students at Palmer College of Chiropractic, Davenport. **Methods:** A cross-sectional survey was disseminated to 873 students (March 2019). The anonymous online questionnaire included demographics, WHO Quality of Life (WHOQOL-BREF), Perceived Stress Scale (PSS-10), and the Response to Stressful Events Scale (RSES), which measures resilient coping tendencies using flat scores and 5 domains. Hierarchical multiple regression analyses assessed for relationships among variables. **Results:** Twenty-five percent (221) of the students (60% female) completed the survey. RSES flat scores were 41% predicted by combining WHOQOL psychological health, sex, and overall QOL rating, where higher QOL and being male predicted higher RSES flat scores. WHOQOL social relationships was the most important model predictor of the RSES spiritual domain. High WHOQOL psychological health and low PSS predicted 39% variability in higher RSES self-efficacy domain scores. WHOQOL psychological health was the most important model predictor of RSES flat scores, and 4 of 5 RSES domains. Male sex was predictive of 3 of 5 RSES domains of resilience: meaning-making, active coping, and cognitive flexibility. The statistical significance for all multiple regression models was $p < .05$. **Conclusions:** Chiropractic students reporting higher psychological health and quality of life, lower perceived stress, and identifying as male generally predicted resilient responses to stressful events. (This is a conference presentation abstract and not a full paper.) Video Abstract <https://youtu.be/shJTVirSm8I>

Psychological responses during the COVID-19 pandemic among Faculty of Health Sciences students at the University of Johannesburg: A secondary analysis

Caroline Hay, Jordan Hutchison

Objective: This study aimed to measure the depression and anxiety of Faculty of Health Sciences (FHS) students during the COVID-19 pandemic and if chiropractic students differed from other programs. **Methods:** This was a secondary data analysis based on a previous self-administered online questionnaire, distributed via the online platform QuestionPro in 2021 during the COVID-19 pandemic to students in the FHS. The Depression, Anxiety and Stress Scale (DASS-42) was used to collect information on depression, anxiety, and stress. We calculated means and standard deviations on the scores of each sub-scale of the depression, anxiety, and stress levels, and 1-way ANOVA or Kruskal-Wallis test for comparison between departments was utilized. **Results:** Of the 2170 surveys distributed, 653 were returned (30.1%). Responses were 18.5% ($n = 121$) chiropractic, 12.3% ($n = 80$) complementary medicine, 8.3% ($n = 54$) optometry, 10.4% ($n = 68$) podiatry, 9.5% ($n = 62$) emergency medical care (EMC), 17.3% ($n = 113$) medical imaging and radiation studies, 8.1% ($n = 53$) biokinetics, and 15.6% ($n = 102$) sport management diploma. The mean value for the depression scale was 12.15 (SD 10.43) mild, anxiety scale was 9.56 (SD 7.86) mild, and stress scale was 14.30 (SD 9.71) normal. Senior students showed statistically significant increases ($p = .001$) relating to stress. Chiropractic students reported statistically significant higher stress compared to students in EMC ($p = .003$), podiatry ($p = .005$) and sport management ($p = .004$). **Conclusion:** The majority of FHS students demonstrated mild depression and anxiety, and normal stress during COVID-19. When compared to EMC, podiatry and sport management, chiropractic students experienced higher stress levels, and for students in all

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programs stress increased with progression within qualifications. (This is a conference presentation abstract and not a full paper.)
Video Abstract https://youtu.be/VDHigab_6gk

Psychological responses among chiropractors in South Africa during the 2020 COVID-19 pandemic: A cross-sectional survey

Dirkie M. Landman, Amisha Sewpersadh, Cynthia Peterson

Objective: The purpose of this study was to evaluate stress, anxiety, and depression of practicing chiropractors during the COVID-19 pandemic. **Methods:** This was an explorative cross-sectional survey, utilizing a self-reporting questionnaire that was distributed by the Chiropractic Association of South Africa (CASA) and the Allied Health Professions Council of South Africa (AHPCSA). The Depression Anxiety and Stress Scale (DASS) questionnaire was distributed using Google Forms from (July to August 2020). Data were analyzed with descriptive statistics for mean scores and compared using the Mann-Whitney U and Kruskal-Wallis tests. **Results:** Of 884 potential respondents, 151 replied (17%). The mean scores for depression, anxiety, and stress were 7.35, 5.42, and 11.58, respectively, which is within the normal range. The relationships between age and depression and between age and anxiety and age and stress showed a statistically significant difference for depression, $H(2) = 7.96, p = .019$, and anxiety experienced, $H(2) = 11.267, p = .004$, among different age groups. Age was not statistically significant, $H(2) = 2.033, p = .362$, for the relationship with stress. Female respondents under the age of 40 years old were more affected than other participants ($p = .000$). **Conclusion:** Chiropractors in this sample were not affected psychologically during the pandemic according to self-reported stress, anxiety, and depression scores. These findings should be considered by educational institutions relating to preparing graduates to manage potential stress, anxiety, and depression in practice. (This is a conference presentation abstract and not a full paper.)
Video Abstract <https://youtu.be/pFv9b3XOUBQ>

Stress and burnout under pandemic-related working conditions for chiropractic faculty: A survey

Christine Major, Kara Burnham, Suzanne Lady

Objective: The purpose of this study was to measure chiropractic faculty stress and occupational burnout during the COVID-19 pandemic. **Methods:** An anonymous externally unvalidated survey was distributed by email to full-time chiropractic faculty at 3 institutions in the United States. Survey questions were modeled after those on the Teacher Burnout Measure and were designed to assess measures of work-related stress and the dimensions of burnout: cynicism, exhaustion, and lack of personal efficacy. Participants were directed to reflect on their experiences from March 2020 to March 2021 during the COVID-19 pandemic. The internal validity of the survey was established by the calculation of Cronbach's alpha (0.841). **Results:** Thirty-six faculty members participated in the survey. The majority (66%) reported dividing their time between home and campus whereas 26% exclusively worked from home and 8% solely on campus. In addition to professional commitments, 31% were engaged in homeschooling their children. Although 47% acknowledged experiencing work-related stress and 61% expressed that they did not stop working after their official work hours, none of the participants met the criteria for occupational burnout. Of note, 72% of faculty reported that they were able to establish a positive learning environment for their students. **Conclusion:** During the COVID-19 pandemic, chiropractic faculty reported experiencing stress but did not report occupational burnout. Despite the challenges posed by teaching and work-related pressures, many faculty reported being able to establish a positive learning atmosphere for their students. (This is a conference presentation abstract and not a full paper.)
Video Abstract <https://youtu.be/BrF7Wd5SvY>

Burnout amongst chiropractic practitioners and trainees: Insights from a scoping review on chiropractic and burnout

Brittini Partridge, Zachary Scott, Christopher Roecker, Sheryl Walters, Clinton Daniels

Objective: The purpose of this scoping review was to summarize the literature pertaining to burnout in chiropractic practitioners and trainees. **Methods:** We searched PubMed, CINAHL, Index to Chiropractic Literature, and the grey literature from inception through July 2023. We combined the term "chiropractic" and terms relevant to burnout (ie, "burnout*", "burn out*", "burnout syndrome", "chronic work-related stress", "emotional exhaustion disorder", "moral distress", "moral injury", "resilience"). Two authors independently screened articles for inclusion and collected lead author, year of publication, study design, and principal findings. We included all languages and study designs but excluded commentaries, non-peer-reviewed publications, and articles that did not include chiropractic or burnout. **Results:** Our search yielded 108 citations and 6 met the inclusion criteria. There were 5 cross-sectional surveys and 1 narrative review published between 2011 to 2022. Of these 6 studies, 1 reported chiropractic students having greater burnout than the general population, while another reported licensed chiropractors having lower rates of burnout when compared to other healthcare professionals. Two studies reported factors contributing to burnout included high workload, physical demands, and insurance mandates. One study reported factors protective against burnout were longer duration in practice and philosophy-based practices. **Conclusions:** Research on burnout within the chiropractic profession is limited. Future research should be conducted to

improve understanding of the prevalence and causes of burnout in doctors of chiropractic and trainees. (This is a conference presentation abstract and not a full paper.)
Video Abstract <https://youtu.be/5ar7UWoZ8xU>

Leaving the chiropractic profession: A focused qualitative analysis of lived experience and burnout

C. Thor Rigney, Sandra Grace, Joanne Bradbury

Objective: This study aimed to gain insights into why individuals leave the chiropractic profession to seek employment elsewhere and to inform the development of a questionnaire for future research. **Methods:** This qualitative study used semi-structured interviews to collect data from Australian chiropractors who had left the profession. Participants were recruited through professional networks and snowball sampling. The semi-structured interview's construction was informed by previous literature and consisted of 15 open-ended questions with multiple prompts. Education was 1 of 6 domains explored. Interviews were conducted and recorded on the Zoom platform. The data were analyzed through reflexive thematic analysis. **Results:** Seven participants were interviewed. Six received their chiropractic education in Australia and 1 in the United States. All participants reported that they enjoyed their education. Though well-prepared clinically, most reported that their education lacked a "real world" perspective. Participants had their own definitions of burnout, including exhaustion, diminished empathy, and boredom. Though burnout was not the primary reason for professional attrition, it was included in their decisions to leave. Five themes were identified regarding burnout: work-life balance, business preparedness, support, clinical uncertainty, and negative rhetoric. **Conclusion:** Burnout was one of many factors contributing to professional attrition, which correlates with previous research regarding burnout within the chiropractic profession. The need to cope with a high volume of negative rhetoric about the profession may be a unique factor influencing burnout and attrition in the chiropractic profession. Developing greater personal resilience and confidence may improve chiropractic graduates' success and professional retention. (This is a conference presentation abstract and not a full paper.)
Video Abstract <https://youtu.be/sCgXOofv8Lo>

The effect of the COVID-19 pandemic on the mental health of the chiropractic students in South Africa

Danica Strydom, Desiree Varatharajulu, Kirsten van Heerden

Objective: The purpose of this study was to determine the social, personal, psychological, and academic impact of the COVID-19 pandemic on chiropractic students in South Africa. **Methods:** A Likert-scale survey of 35 questions was sent to chiropractic students registered at Durban University of Technology and the University of Johannesburg. The survey was validated using a pilot study and focus group. A 51.65% response rate was recorded, with 59.2% of the responses from DUT. **Results:** Of the 187 who responded, 60.10% expressed discomfort if individuals did not wear masks and 73.4% reported they experienced conflicts due to prolonged time spent with household members in limited personal space. The pandemic also had personal effects, such as 69% reported having reduced productivity, 42% increased financial difficulties, 50% decreased physical activity, and 80.85% spending more time on social media. They reported these challenges had detrimental effects on mental health, including increased anxiety (92.02%), difficulties in thought control (75.5%), withdrawal from social interactions (80.32%), decreased motivation (90.96%), and concentration issues (89.89%). A portion of the students (43.62%) experienced a decline in academic marks. **Conclusion:** The majority of chiropractic students reported that the SARS-CoV-2 pandemic lockdown had a negative effect in terms of their academic progress, mental health, social and personal functioning. (This is a conference presentation abstract and not a full paper.)
Video Abstract <https://youtu.be/yhfba1WW6hc>

Burnout syndrome in a single cohort of chiropractic students: A longitudinal study

Gary Tam, Jesse Cooper, Gregory Priest, Michael Moore, Katherine Pohlman

Objective: The purpose of this study was to measure clinical chiropractic trainee burnout. **Methods:** This study examined burnout among a single cohort of clinical chiropractic trainees as they progressed through a year-long clinic rotation. Chiropractic students ($n = 108$) completed the Professional Fulfillment Index (PFI) at the beginning of the clinical rotation in January 2021. Students completed the PFI every 4 months. PFI burnout was analyzed with a pairwise t test and Bonferroni correction. To assess the validity of the PFI, students completed the Maslach Burnout Inventory – Human Services Survey (MBI-HSS) at the first 4-month data collection. Pairwise correlation of the PFI and components of the MBI-HSS (emotional exhaustion, depersonalization, personal accomplishment) were analyzed. **Results:** The study's response rate per term was 72.2% ($n = 78$), 42.6% ($n = 46$), 35.2% ($n = 38$), and 38.0% ($n = 41$). A pairwise t test revealed statistically significant burnout rates between baseline and the 4- and 8-month timepoints (39.7%, 47.8%, 65.8%, respectively). PFI burnout was only found to be correlated with the MBI-HSS emotional exhaustion component ($r = 0.77, p < .01$). **Conclusion:** The study found burnout in approximately half of the participating clinical chiropractic trainees, which is similar to rates in other healthcare professions. At this time, there is no burnout threshold consensus. Future studies of burnout calculations are warranted to standardize burnout measurement and thresholds across professions. (This is a conference presentation abstract and not a full paper.)
Video Abstract <https://youtu.be/kcNjK0xWphw>

Library as a therapeutic landscape: Promoting health and well-being to chiropractic students

Natalia Tukhareli

Objective: The purpose of this report is to describe a wellness initiative that was developed at the Canadian Memorial Chiropractic College library. **Methodology:** An innovative bibliotherapy program (ie, the practice of using books and reading to promote mental health, well-being, and resilience) for chiropractic students was developed. The methodology involved a comprehensive review of the library science and bibliotherapy research. Based on its findings and the author's expertise in bibliotherapy, a variety of effective stress-management activities were identified including the bibliotherapy approach in the form of shared reading. **Results:** The program was initiated in January 2020. In addition to special collections, the library offered several stress-management services and a Mindful Reading program to students. Small group weekly sessions involved reading aloud with a guided group discussion. The readings were tailored specifically to address psychological, emotional, and social challenges faced by students. With the onset of the COVID-19 pandemic, the program was moved online and expanded to college employees. The library's wellness initiatives were recognized by college administrators as a valuable addition to available support services. The bibliotherapy program participant feedback collected through informal conversations and an online comment box showed that shared reading helped students cope with anxiety, worries, loneliness, and isolation caused by the pandemic, as consistent with bibliotherapy research. **Conclusion:** The bibliotherapy program seemed to be well-received by students and employees of this institution. These findings suggest future research to evaluate the potential efficacy of bibliotherapy for the mental health and well-being of college students. (This is a conference presentation abstract and not a full paper.)

Video Abstract <https://youtu.be/OsdO31EXxRM>

Chiropractic faculty experiences of burnout and the COVID-19 pandemic: A cross-sectional study of 1 chiropractic program

Krista Ward, Melinda Pham, Ricky Wong, Bradley Francis, Monica Smith

Objective: This study's objective was to measure chiropractic faculty's experience of the COVID-19 pandemic, their burnout as educators, and their coping strategies. **Methods:** In March 2022, a Qualtrics survey was emailed to 73 faculty and 10 previously employed faculty from 1 United States doctor of chiropractic program (DCP). The 62-question survey included 31 items from the Epidemic-Pandemic Impacts Inventory (EPII) designed to assess how the pandemic changed people's lives including work, social, home, and health. The survey also included 22 items from the validated Maslach Burnout Inventory (MBI); occupation questions (eg, full-time/adjunct; years at the institution); and open-ended coping questions. Faculty were given 3.5 weeks for survey completion, reminders, and paper surveys to increase participation. Statistical analyses in STATA17 included Mann-Whitney U test to assess associations between MBI and EPII responses. **Results:** Forty-three faculty (52%) completed the survey, 42% of whom worked at the DCP ≥ 10 years. Twenty-six percent scored high on the MBI for emotional exhaustion (EE) (mean 15.79, SD 13.68). Higher EE was associated with EPII items for increased mental health and sleep problems since the beginning of the pandemic ($p < .001$). Common coping strategies included self-care and social support. **Conclusion:** Average EE for participating faculty was lower compared to previous reports from other health professional faculty and coping strategies were similar to those used by other educators in previous research. The 26% prevalence of EE and associations between EE and mental health and sleep problems suggest DCP faculty may need support following the COVID-19 pandemic. (This is a conference presentation abstract and not a full paper.)

Video Abstract <https://youtu.be/HlitOjNehFA>

Lifestyle behaviors of students in a doctor of chiropractic program that may be associated with burnout: A retrospective study

Krista Ward, Koen Kallop, Sergio Tony Fernando, Monica Smith

Objective: The objective of this study was to examine students' mental health and lifestyle behaviors at the beginning and end of their doctor of chiropractic program (DCP). **Methods:** The investigative team identified health center files for 137 students who graduated between 2015 and 2016. Investigators extracted student self-reported mental health and lifestyle behavior data from non-validated wellness questionnaires within the health center records. Mental health questions included the presence of anxiety or depression (Yes/No) and general state of well-being on an ordinal scale. Lifestyle questions included weekly exercise frequency and nightly sleep hours. Data from the beginning and end of the DCP were analyzed with descriptive statistics, paired t test, sign test, and McNemar's χ^2 test. **Results:** The records showed that students reported exercising on average 3.7 times per week and sleeping on average 6.8–6.9 hours per night at the beginning and end of the DCP. The proportion of students reporting anxiety or depression decreased between beginning and end by 13% (95% confidence interval: -5% , -21% , $p = .002$). There was a statistically significant increase in the average reported well-being scores (increased 0.87 points; 95% confidence interval: 0.62 – 1.12 ; $p < .001$). **Conclusion:** The health records of this sample from 1 DCP showed students reported healthy sleep and exercise habits and improved mental health and well-being over the course of their educational program. Prospective research with validated measures including students from multiple DCPs is needed to understand the relationship between lifestyle behaviors and mental health as these may protect against burnout and attrition. (This is a conference presentation abstract and not a full paper.)

Video Abstract <https://youtu.be/OZ-KEjDtSxM>

Perceived stress and burnout syndrome in chiropractic students at the University of Johannesburg during the COVID-19 pandemic: A cross-sectional study

Christopher Yelverton, Tayla Wagner

Objective: Higher levels of stress may be associated with decreased academic success and physical and psychological well-being in chiropractic students. The aim of this study was to determine the perceived stress and burnout of chiropractic students at the University of Johannesburg (UJ), during the COVID-19 pandemic. **Method:** This was a quantitative, exploratory study design, utilizing a self-administered online questionnaire, distributed to chiropractic students ($n = 246$) at UJ. The questionnaire consisted of three main components: demographics; Perceived Stress Scale (PSS-10); and the Maslach Burnout Inventory-Student Survey (MBI-SS). Data were analyzed utilizing Exploratory Factor Analysis, Cronbach's alpha for reliabilities, and descriptive statistics for mean scores being interpreted using subscales pertaining to the two survey tools. **Results:** The response rate was 63.82% ($n = 157$) with the PSS-10 indicating participants obtained a total mean score value of 25.08 (average stress). For the MBI-SS categories, participants scored 18.96 out of 30 for exhaustion; 10.31 out of 30 for cynicism; and 22.46 out of 36 for professional efficiency where higher scores of exhaustion and cynicism, and lower scores of professional efficiency are indicative of higher degrees of burnout. Statistically significant differences for both tools were noted in relation to age and academic year, with higher values indicated with increased age and progression in the program. **Conclusion:** The results indicate that chiropractic students experience moderate levels of stress, but higher burnout than other health sciences student populations when compared to current literature. Age and progression in the program appear to have a negative influence on both these factors. (This is a conference presentation abstract and not a full paper.)

Video Abstract <https://youtu.be/JbYxGp4PUGU>

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About the Organization

The Chiropractic Educators Research Forum (CERF) is an online forum where chiropractic educators share their insights and learn new information about research and scholarship. The CERF mission is to build scholarship and research

capacity for chiropractic educators throughout the world. Contact information may be found at CERFweb.org.

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