Working Conditions of Strength and Conditioning Coaches in New Zealand and the Pacific Islands

Bennett W. Jones[1]

Richard A. Humphrey[1]

Dr. Codi A. Ramsey[1]

Dr. Simon Middlemas[1]

Dr. Kirsten Spencer[2]

[1]Otago Institute of Sport, Exercise and Health – Otago Polytechnic

[2]Performance Analysis Research Group, Sports Performance Research Institute (SPRINZ) - Auckland University of Technology

Original Scientific Research Study

Corresponding authors contact details:

Bennett Jones

Forth Street
Private Bag 1910
Dunedin 9054
New Zealand

bennett.jones93@gmail.com

+64 27 859 3070

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(Full Name)

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(Address)

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Working Conditions of Strength and Conditioning Coaches in New Zealand and the Pacific Islands

BLUF:

Permanent employment appears the most rewarding for strength and conditioning coaches in this region, however it does not come without difficulties relating to work conditions - including travelling away from home, long days and hours that frequently exceed contracted expectations.

Abstract:

The strength and conditioning coach is a sports service provider that plays an integral role in preparing an athlete for competition. The bio-physical elements of strength and conditioning are well-known, however little information is available on the working conditions of the coaches. An online, in-depth, survey was used to gather quantitative data from coaches within New Zealand and the Pacific Islands (NZP). Participants were categorised into the three most common employment styles for this population, (1) permanently-employed, (2) self-employed and (3) other-employed in order to compare responses. 72 coaches from New Zealand (n = 67) and the Pacific Islands (n = 5) responded to the survey. Findings revealed the working conditions of coaches within this region vary and depend on the style of employment. Those employed permanently had the greatest industry experience (mean = 8.69 years), have a tertiary level qualification (100%) and hold or are working towards gaining an industry-specific accreditation (85.18%). They receive higher remuneration (mean = $67,687.86NZD), have benefit packages (77.77%) and work longer hours than self-employed and other-employed coaches ($p < 0.05$). Permanent employment appears to be the most rewarding form of employment for coaches in this region, however it does not come without difficulties relating to work conditions. These challenges include travelling away from home, 10+ hour days and hours that frequently exceed contracted expectations. Theoretically, this research provides initial data for coaches working within this region and builds upon the research for this topic globally. Applied, this research allows for emergent coaches to make informed professional development and career-related decisions.

Key Words: Sport, Trainer, Employment, South Pacific, Job Satisfaction

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Table of Contents

Form MAS8 I
Research Article Title Page II
BLUF III
Abstract IV
Acknowledgements V
Table of Contents VI
List of Tables VII
Introduction 1
Methods 3
Approach to the Problem 3
Participants 4
Procedures 5
Reliability Pilot Study 5
Statistical Analysis 5
Results 6
Discussion 15
Demographics 15
Education and Training 15
Sports 16
Hours and Remuneration 16
Workload and Hours 18
Job Satisfaction 18
Practical Applications 19
Strengths and Limitations 21
References 23
APPENDICES 27
APPENDIX A Institutional Board Ethical Approval 28
APPENDIX B Online Survey 30
APPENDIX C Invitation E-Mail 44

List of Tables

Table 1: Strength and Conditioning Coach Profile as a Permanent Employee **.....9**
Table 2: Strength and Conditioning Coach Profile as a Self-Employed SCC **.....11**
Table 3: Strength and Conditioning Coach Profile as a Other-Employed SCC**.....13**

Introduction

The working conditions of employees have been extensively researched across a variety of fields such as the education (1–3), health care (4–6), and the hospitality industries (7,8). Recently, within high-performance sports settings, there is now a growing body of literature surrounding the work conditions, career experiences and professional development of sports coaches and athletes (9–13). However, there is a limited amount of literature surrounding the working conditions of strength and conditioning coaches (SCCs) outside of the empirical research conducted within the American Collegiate settings (14–16) and the career development of coaches working in the United States of America, United Kingdom, New Zealand (17), and Australia (11). High-performance sporting development and success is related to a nation's economic growth (18). Nations are now spending increasing sums of money on elite sport in order to garner international success within a globalising world (19). Benefits include: international prestige, diplomatic recognition, ideological competition, 'feel good factor' and the numerous economics associated with hosting, advertising, and sponsorship (20).

With such importance placed on sporting success, the sporting industry's rapid growth in professionalism has opened up opportunities for multiple sport-service professionals (9,11,17). For example, the SCC is one sport-service provider that has benefited from the growth of professional sport in the past 40 years (17). The SCC plays an integral role in minimising the risk of injury and improving the performance of athletes through prescribing, testing and evaluating exercises (21). Prior to the 1970s, the role of the SCC did not formally exist, however, by the end of the twentieth century, the SCC was considered an indispensable component in the process of preparing an athlete to compete (22). It is now

commonplace for a SCC to be working within several sporting settings, (i.e. professional, national organisations and secondary and tertiary education) (11).

The strength and conditioning industry has grown alongside the professionalism of sport, with the formation of organisations such as the National Strength and Conditioning Association (NSCA) in 1978 (23), the Australian Strength and Conditioning Association (ASCA) in 1992 (24) and the United Kingdom Strength and Conditioning Association in 2004 (25) (11). These organisations offer support to their members through certification, academic resources, and professional development pathways to aid in the development of the profession.

Extensive amounts of strength and conditioning research have emerged over the past two decades (26–28). There is a plethora of knowledge focusing on the bio-physical (29–32) components that underpin a SCCs practice (17). Due to the rapid advancement in the professionalism of sport, coupled with the increased technical body of knowledge within the field of strength and conditioning, the demands placed on SCCs naturally increase, with some coaches averaging 12 hours of work per day (33). SCCs job responsibilities are not limited to the weight room or sporting field as further duties such as administration are making workloads unmanageable (11).

The high-performance sports workforce in Australia has been extensively studied and shows that the industry comes with unique challenges such as limited human resource policies, which often lead to stressful work conditions for coaches (11). These conditions may include large disparities in contracts, overtime hours worked and poor remuneration (9–11,13,34). Despite some of the issues highlighted, SCCs have a high sense of job satisfaction and value their identity and position within the high-performance sport setting (11,16,22,35,36).

Due to the stresses of the role and the desire for increased stability, especially by more senior coaches, some practitioners are moving towards academia, education or government organisations (11). However, this may lead to career dissonance and a potential loss of identity among practitioners (11). Understanding the working conditions of SCCs may provide an insight to both education providers and practitioners around the difficulties for SCCs within this region. It may also allow for governing bodies and national organisations to implement strategic support that will keep high-level coaches working with athletes and maintain this as a sustainable and appealing career option.

The purpose of this study was to explore the working conditions of SCCs within New Zealand and the Pacific Islands. Specifically, the study compared the working conditions between three levels of employment 1. Permanent, 2. Self-Employed or 3. Other (fixed-term, casual, intern and volunteer).

Methods

Approach to the Problem:

An online survey was used to collect data on the working conditions of New Zealand and Pacific Island based SCCs. This approach was similar to that undertaken by Pullo (15) which provided initial data on the profile of SCCs working in National Collegiate Athletic Association Division I institutions in the United States of America. New Zealand and the Pacific Islands (NZP) was selected for the current study due to the lack of current data for practitioners working within this region. SCCs located or working within this region were contacted via e-mail to participate in the study. The Tailored Design Method by Dillman, Smyth and Christian (37) was adopted to ensure that the study adhered to rigorous data collection and analysis procedures. Emphasis was placed on gaining the highest possible response and completion rate by establishing trust and increasing the perceived benefits of

completing the survey while decreasing the expected burden of participation (37). Before this study was undertaken, the institution's Ethics Committee reviewed this study's procedure and granted approval. Similarly, the researcher then completed consultation with local iwi representatives as required with New Zealand based research. This was to ensure the study conducted was within the principles of the Treaty of Waitangi. The online survey questions included written responses, multiple-choice and five-point Likert scales. The questions covered participant demographic information, education, current role(s), contracts, work hours, remuneration and benefits, intrinsic work quality and their future within the industry. Once the data was collected, participants were categorised by three styles of employment: permanent (full-time and part-time), self-employed (contractor) and other (fixed-term, casual/hourly, intern [paid / unpaid]). Descriptive and correlative statistics were utilised to compare differences in responses of the three employment groups and within each employment groups different sub-categories.

Participants:

Inclusion criteria for this study required participants to be currently working as a SCC within a sport based setting. SCCs working within education providers such as schools or universities as well as private sector facilities such as commercial gyms were required to only report on their work with athletes or sport-based clientele. This ensured the data collected was from strength and conditioning work and not similar fields such as personal training. All participants were required to be working within (or contracted but living away from) New Zealand or the Pacific Islands.

Procedures:

A database of SCCs practicing within NZP was created. Contact details of current SCCs were obtained from publicly available websites of educational institutions, sports clubs and organisations as well as private sector strength and conditioning facilities. If the website did not list the SCC(s) contact details, the recruitment email was sent to the website administrator and forwarded to the SCC(s). When no additional SCCs could be added to the database, an e-mail was sent out to all SCCs inviting them to take part in the study. The e-mail contained information regarding the importance of the study, assurances of confidentiality, the voluntary nature of participation and the direct link to the survey. Alongside this information, the e-mail also requested that the SCC share the link with their strength and conditioning network within this region as a form of snowball sampling. This led to the link being shared among colleagues and throughout multiple social media platforms to enhance exposure. Two follow up e-mails were sent out after four and eight weeks to serve as a reminder and in an attempt to maximise the response rate.

Reliability Pilot Study:

Similar to previous research, a reliability pilot study was conducted to ensure that the online survey was presented in a clear and concise manner and that the user interface was easily navigated (14). Five New Zealand based SCCs were asked to complete the online survey and offer feedback on its content and the software on which it was delivered. As a result, the online survey had some items reworded to enhance clarity.

Statistical Analysis

All responses to the online survey were collated automatically by Qualtrics (Provo, Utah) and were downloaded into an Excel (Microsoft Excel for Mac 2011, version 14.6.4)

spreadsheet for data cleansing. The results were tabulated using descriptive and correlative statistics to determine if there were significant differences between the three categories of employment analysed in this study. Statistical analysis was completed using SPSS (IBM SPSS Statistics for Mac, version 25). Summary tables of SCCs employed permanently, self-employed and other-employed were created in order to present the profiles of SCCs within these groups (Table 1, 2 and 3, respectively). Variables are presented with means and where appropriate, standard deviations and frequency counts. Independent t-tests were used in order to compare means of continuous data between groups (permanent vs. self-employed and permanent vs. other-employed), the alpha level was set at $p = 0.05$. Levene's Test for Equality of Variances was used to determine variability between groups . Where variances were significant ($p < 0.05$), then assumption values were used. One-way Analysis of Variance (ANOVA) was used to assess within group differences among the sub-categories for each question (i.e. qualification levels). Ordinal data from questions relating to remuneration satisfaction, intrinsic work quality and intention to continue in the industry was assessed using a Mann-Whitney U test to compare differences between the three employment groups. The alpha level was also set at $p = 0.05$.

Results

A total of 72 SCCs from New Zealand (n = 68), Tonga (n = 2), Fiji (n = 1) and Samoa (n = 1) responded to the recruitment e-mails and snowball sampling. Participants were characterised as being 25 to 34 year old, New Zealand European males and complete profiles for each employment group can be found in the individual Strength and Conditioning Coach Profiles (Tables 1, 2 and 3). Employed SCCs with a permanent contract had a significantly greater number of years' experience than self-employed and other-employed SCCs ($t = 2.51$. $p = 0.015$). The formal education of SCCs varied with employment level, with permanently

contracted SCCs holding more Masters Degrees than self-employed and other-employed SCCs. The perceived importance of obtaining an industry-relevant accreditation was apparent with 80% (n = 58) of participants either holding or working towards gaining accreditation.

Participants frequently worked more than one role at a given time, with 55.6% (n = 40) being employed with a contract through their employer. However, 54.5% (n = 12) of self-employed SCCs, who have multiple roles, did not have signed contracts for every role and ~14% (n = 10) of all participants worked with no contract at all. Rugby Union provided the most opportunities for SCC employment (61%, n = 44) in the New Zealand and Pacific Island region. Whilst more than 70% (n = 52) of participants reported their preference to either continue working or to be in full-time positions, only 51.4% (n = 37) actually worked full-time. Of this 37, only 59.5% (n = 22) were in permanent positions.

Permanent employees had the highest mean annual salary, significantly higher than self-employed coaches (t = 2.67. $p = 0.012$) and double the other-employed mean salary (t = 3.01. $p = 0.005$) (Table 2). Permanent employees (77.77%. n = 21) received the majority of additional benefits (i.e. medical insurance, uniform, phone). However, they spent significantly more days travelling (t = 4.15. $p < 0.001$) and worked more 10+ hour days per month (t = 2.94. $p = 0.005$) than self-employed SCCs. Similarly, permanent employees also work significantly more days per month above their agreed upon hours in comparison to self-employed (t = 2.66. $p = 0.011$) and other-employed (t =2.60. $p = 0.012$) SCCs. Despite these long hours and travel, permanent employees answered more positively regarding their professional development in comparison to other-employed SCCs. Permanent SCCs "somewhat agree" the strength and conditioning field offered good opportunity for career development (U = 171. $p = 0.009$) and "strongly agree" to having intentions to continue within the strength and conditioning field in 5 years' time (U = 215.5. $p = 0.050$).

As a result of the one-way ANOVA, each of the individual employment groups saw several statistically significant differences between the means of two different sub-categories (i.e other-employed SCCs level of employment and annual salary [$p = 0.018$] in Table 3), these can be found in each of the individual SCC employment profiles (Tables 1, 2 and 3).

Table 1: Strength and Conditioning Coach Profile as a Permanent Employee (n=27)

	Years as a practitioner M (SD); R	Age range M	Sex (M/F)	Number of roles M (SD); R	Days travelling PM M (SD); R	Days overtime PM M (SD); R	Annual Salary M (SD); R [*n*]
Qualification	p=0.313	p=0.730	p=0.598	p=0.177	p=0.097	p=0.507	p=0.527
Masters (n=9)	11.9 (7.9); 5-30	35-44	9/0	1.6 (1); 1-4	2.6 (2.6); 0-8	9.2 (8.6); 0-20	76,520 (25,433); 25,000-100,000 [7]
PG Dip (n=8)	7.6 (5.2); 2-16	25-34	8/0	1.8 (1.2); 1-4	2.4 (1.8); 0-5	15 (9.5); 0-28	54,911 (17,042); 25,000-80,000 [7]
Bachelors (n=9)	6.4 (5.2); 1-15	25-34	8/1	1.4 (1); 1-4	4.5 (2.1); 1-8.5	9.1 (6.2); 0-20	67,008 (51,311); 17,280-160.000 [7]
Undergraduate dip (n=1)	7	25-34	1/0	4	1	10	100,000 (1)
Accreditation	p=0.554	p=0.600	p=0.725	p=0.842	p=0.923	p=0.912	p=0.550
Yes (n=16)	9.8 (7.5); 1-30	35-44	15/1	1.6 (1); 1-4	3.2 (2.8); 0-8.5	10.9 (8.6); 0-28	73,729 (37,609); 25,000-160,000 [13]
Working towards (n=7)	6.7 (3.8); 3-12	25-34	7/0	1.9 (1.2); 1-4	2.8 (1.7); 0-5	9.8 (8.5); 0-20	64,232 (36,346); 17,280-115,000 [5]
No (n=4)	7.5 (4.8); 3-14	25-34	4/0	1.8 (1.5); 1-4	3 (1.4); 1-4	12 (6.8); 5-20	52,375 (11,940); 37,000-65,000 [4]
Level of employment	p=0.630	p=0.300	p=0.012	p=0.858	p=0.788	p=0.626	p=0.255
Full-time Professional (n=9)	11.2 (8.7); 3-30	35-44	9/0	1.9 (1.3); 1-4	3 (2.8); 0-8	10.9 (9.8); 0-28	87,786 (20,498); 57,500-115,000 [7]
Semi-Professional (n=7)	8.4 (4.2); 2-14	25-34	7/0	1.4 (0.8); 1-3	3.1 (1.8); 0-5	10.3 (6.9); 0-20	49,840 (20,004); 25,000-80,000 [7]
Olympic/Paralympic (=1)	10	25-34	1/0	1	2	20	91,000 [1]
National (n=2)	4 (4.2); 1-7	25-34	1/1	1	5 (1.4); 4-6	5 (7.1); 0-10	N/A
Amateur (n=4)	8.5 (5.9); 3-15	35-44	4/0	1.8 (1.5); 1-4	2 (1.8); 0-4	14.6 (7.1); 5-20	68,570 (63,404); 17,280-160,000 [4]
Multiple (n=4)	5.3 (4.7); 2-12	25-34	4/0	2 (1.4); 1-4	3.6 (3.4); 1-8.5	8 (8); 3-20	53,491 (21,984); 34,773-77,700 [3]
Sports	p=0.837	p=0.463	p=0.220	p=0.182	p=0.093	p=0.028	p=0.521
Rugby Union (n=11)	8.7 (8); 2-30	25-34	11/0	1.5 (0.9); 1-4	2.7 (1.8); 0-5	10.7 (7.7); 0-20	62,838 (27,494); 25,000-115,000 [10]
Cricket (n=1)	6	25-34	1/0	1	0	10	N/A
Olympic/Paralympic (n=4)	5.8 (4.9); 1-10	25-34	3/1	1.3 (0.5) 1-2	5.4 (2.7); 2-8.5	9.8 (7.3); 4-20	50,258 (25,621); 25,000-91,000 [3]
Other (n=1)	7	25-34	1/0	4	0	10	100,000 [1]
Multiple (n=10)	10.1 (5.6); 2-18	35-44	10/0	1.9 (1.3); 1-4	3.2 (2.2); 1-8	11.4 (10.2); 0-28	76,248 (41,472); 17,280-160,000 [8]
10+ hour days	p=0.647	p=0.426	N/A	p=0.228	p=0.465	p=0.058	p=0.226
0-2 (n=5)	10.8 (10.3); 1-30	25-34	4/1	1.4 (0.8); 1-4	3.3 (2); 0-6	4.7 (5.9); 0-13.5	65,760 (35239.5); 17,280-100,00 [3]
3-5 (n=6)	8 (6.1); 2-18	25-34	6/0	1.3 (0.5); 1-2	4.1 (3.3); 0-8.5	9 (8); 0-20	70,746 (31,888); 25,000-115,000 [6]
6-15 (n=10)	6.7 (3.6); 2-14	25-34	10/0	1.5 (0.9); 1-4	2.5 (1.4); 0-5	10 (6); 3-20	54,360 (19,213); 25,000-91,000 [8]
16-20 (n=4)	10.5 (4); 5-16	35-44	4/0	1.8 (1.3); 1-4	3.5 (2.1); 0-5	21 (4.7); 15-28	57,500 (2,041); 55,000-60,000 [3]
21-30 (n=2)	11 (4); 7-15	45-54	2/0	4	1.5 (1.5); 0-3	15 (5); 10-20	130,000 (30,000); 100,000-160,000 [2]
Satisfied with Skills	p=0.409	p=0.490	p=0.000	p=0.457	p=0.602	p=0.688	p=0.501
Yes, happy (n=12)	8.5 (5.1); 2-18	35-44	12/0	1.8 (1.1); 1-4	3.4 (2.2); 0-8	9.7 (7.7); 0-20	72,267 (36,873); 25,000-160,000 [12]
Yes, want to do more (n=13)	9.6 (7.6); 2-30	25-34	13/0	1.5 (1); 1-4	2.6 (2.5); 0-8.5	11.1 (8.9); 0-28	62,193 (30,998); 17,280-100,000 [10]
No, do not use my skills (n=2)	3 (2.8); 1-5	25-34	1/1	2.5 (2.1); 1-4	4 (2.8); 2-6	15 (7.1); 0-20	N/A

Future		p=0.692	p=0.464	p=0.143	p=0.601	p=0.790	p=0.092	p=0.934
	Strongly agree (n=16)	8.6 (7.6); 3-30	25-34	16/0	1.5 (0.9); 1-4	3 (2.6); 0-8.5	8.5 (7.2); 0-20	69,376 (38,005); 17,280-160,000 [15]
	Agree (n=5)	7.4 (1.8); 5-10	25-34	5/0	2.4 (1.5); 1-4	3.2 (1.9); 0-5	9.8 (8.1); 0-20	61,875 (30,778); 25,000-100,000 [4]
	Somewhat agree (n=1)	16	45-54	1/0	1	5	28	N/A
	Neutral (n=1)	12	35-44	1/0	1	0	20	60,000 [1]
	Disagree (n=3)	5.3 (4.5); 1-10	25-34	2/1	2 (1.7); 1-4	3.3 (2.3); 2-6	16.7 (5.8); 10-20	91,000 [1]
	Strongly disagree (n=1)	14	35-44	1/0	1	4	8	50,000 [1]
Satisfied with Pay		p=0.813	p=0.636	p=0.143	p=0.589	p=0.711	p=0.076	p=0.143
	Extremely satisfied (n=4)	8.3 (6.8); 2-18	25-34	4/0	1.8 (1.5); 1-4	4.1 (4.8); 0-8.5	6.3 (4.8); 0-10	77,258 (36,823); 34,773-100,000 [3]
	Moderately satisfied (n=10)	10.7 (8.4); 2-30	35-44	10/0	1.7 (1.1); 1-4	2.8 (1.6); 0-5	9 (9.3); 0-28	84,953 (35,579); 48,000-160,000 [9]
	Slightly satisfied (n=2)	8.5 (2.1); 7-10	25-34	2/0	1.5 (0.7); 1-2	4.5 (0.7); 4-5	2 (2.8); 0-4	25,000 [1]
	Neutral (n=3)	4.7 (4.7); 1-10	25-34	2/1	1 (3)	3 (2.6); 1-6	11.7 (7.6); 5-20	64,000 (38,183); 37,000-91,000 [2]
	Slightly dissatisfied (n=4)	8.5 (4.5); 2-12	25-34	4/0	1.3 (0.5); 1-2	1.8 (2.4); 0-5	18.8 (2.5); 15-20	53,750 (20,966); 25,000-75,000 [4]
	Moderately dissatisfied (n=4)	7 (4.7); 4-14	25-34	4/0	2.5 (1.7); 1-4	3.5 (1); 2-4	15.4 (5.8); 8-20	41,593 (21,387) 17,280-57,500 [3]
Opportunity for Career Development		p=0.040	p=0.016	p=0.220	p=0.252	p=0.824	p=0.796	p=0.012
	Strongly agree (n=7)	14.7 (8.2); 5-30	35-44	7/0	1.9 (1.5); 1-4	2.9 (2.9); 0-8	9.6 (10.7); 2-28	100,783 (31,631); 70,000-160,000 [6]
	Somewhat agree (n=11)	6.9 (4.4); 2-14	25-34	11/0	1.5 (0.9); 1-4	3.1 (2.5); 0-8.5	10.9 (8.1); 0-20	47,727 (17,028); 25,000-75,000 [10]
	Neutral (n=4)	7.8 (3.5); 4-12	25-34	4/0	1.5 (1); 1-3	2.4 (2.1); 1-5	8.8 (6.3); 0-15	61,293 (16,487); 48,880-80,000 [3]
	Somewhat disagree (n=4)	4.5 (3.9); 1-10	25-34	3/1	1.3 (0.5); 1-2	4.3 (1.7); 2-6	12.1 (6.3); 5-20	74,426 (50,925); 17,280-115,000 [3]
	Strongly disagree (n=1)	5	25-34	1/0	4	2	20	N/A

Notes.
M (SD); R = Mean (Standard Deviation), Range
N = Number Count
(M/F) = (Male/Female)
N/A = No Answer
P value = Within group differences between subcategories

Table 2: Strength and Conditioning Coach Profile as a Self-Employed SCC (n=22)

	Years as a practitioner M (SD); R	Age range M	Sex (M/F)	Number of roles M (SD); R	Days travelling PM M (SD); R *(p<0.001)	Days overtime PM M (SD); R *(p=0.011)	Annual Salary M (SD); R [*n*] *(p = 0.012)
Qualification	p=0.076	p=0.521	p=0.564	p=0.111	p=0.960	p=0.076	p=0.040
Masters (n=4)	15.3 (10.5); 6-30	35-44	4/0	3 (0.8); 1-4	1.1 (2); 0-4	2.5 (3.8); 0-8	29,067 (31,363); 7,200-65,000 [3]
PG Dip (n=8)	4.6 (3.5); 1-10	25-34	7/1	1.6 (0.5); 1-2	0.7 (1.4): 0-4	0.5 (1.1); 0-3	16,950 (18,046); 2,500-50,000 [6]
Bachelors (n=5)	6.6 (6.5); 2-18	25-34	5/0	2.2 (1.1); 1-4	0.8 (0.8); 0-2	10.2 (4.1); 4-15	85,000 (39,051); 0,000-130,000 [3]
Undergraduate Dip (n=2)	9 (1.4); 8-10	25-34	2/0	1.5 (0.7); 1-2	1.5 (0.7); 1-2	6.5 (7.8); 1-12	40,000 (28,284); 20,000-60,000 [2]
No qualification (n=3)	3.7 (1.5); 2-5	25-44	2/1	1.7 (1.2); 1-3	1 (1); 0-4	10 (15.6); 0-28	21,067 (25,064); 6,000-50,000 [3]
Accreditation	p=0.851	p=0.910	p=0.506	p=1.000	p=0.561	p=0.393	p=0.415
Yes (n=13)	7.8 (8.1); 1-30	25-34	11/2	2 (0.8); 1-4	1.2 (1.5); 0-4	6.3 (8.4); 0-28	44,500 (40,948); 2,500-130,000 [9]
Working towards (n=3)	5.3 (4); 3-10	25-34	3/0	2 (1); 1-3	0.4 (0.5); 0-1	0	31,667 (30,551); 5,000-65,000 [3]
No (n=6)	7 (4.6); 3-15	25-34	6/0	2 (1.3); 1-4	0.7 (0.8); 0-2	4.3 (4.6); 0-12	18,320 (18,557); 7,200-50,000 [5]
Level of employment	p=0.402	p=0.947	p=0.948	p=0.700	p=0.365	p=0.595	p=0.184
Full-time Professional (n=2)	15.5 (21); 1-30	25-34	2/0	2	2 (2.8); 0-4	1 (1.4); 0-2	25,000 [1]
Semi-Professional (n=2)	4 (1.4); 3-5	25-34	2/0	1.5 (0.7); 1-2	1	5 (7.1); 0-10	45,000 (28,284); 25,000-65,000 [2]
National (n=2)	7.5 (3.5); 5-10	25-34	2/0	2	0	2 (2.8); 0-4	12,000 [1]
Amatuer (n=7)	5.1 (4.9); 1-15	25-34	6/1	1.7 (1.1); 1-4	0.4 (0.8) 0-2	3 (4.9); 0-12	6,650 (1,100); 5,000-7,200 [4]
Multiple (n=9)	7.8 (4.8); 2-18	25-34	8/1	2.3 (1); 1-4	1.3 (1.3) 0-4	7.9 (9.4); 0-28	50,667 (36,882); 6,000-130,000 [9]
Sports	p=0.494	p=0.916	p=0.583	p=0.023	p=0.624	p=0.827	p=0.363
Rugby Union (n=11)	5.5 (8.3); 1-30	25-34	9/2	1.5 (0.5); 1-2	0.7 (1.2); 0-4	6.2 (9.2); 0-28	24,385 (27,100); 2,500-65,000 [7]
Olympic/Paralympic (n=1)	4	25-34	1/0	1	2	0	7,200 [1]
Other (n=1)	5	25-34	1/0	2	0	4	N/A
Multiple (n=9)	10 (4.2); 5-18	25-34	9/0	2.7 (1); 1-4	1.1 (1.3); 0-4	4 (4.7); 0-12	45,477 (34,361); 7,200-130,000 [9]
10+ hour days *(p=0.005)	p=0.007	p=0.331	p=0.995	p=0.377	p=0.002	p=0.090	p=0.142
0-2 (n=13)	5.9 (4); 1-15	25-34	12/1	1.9 (0.9) 1-4	0.5 (0.7); 0-2	2 (3.7); 0-12	16,110 (16,079); 2,500-60,000 [10]
3-5 (n=1)	10	25-34	1/0	3 (1)	0.25	0	65,000 [1]
6-15 (n=8)	9.1 (9.3); 10-30	35-44	7/1	2.1 (0.9), 1-4	1.6 (1.5); 0-4	10.3 (8.1); 2-28	68,714 (39,838); 6,000-130,000 [6]
Satisfied with Skills	p=0.365	p=0.028	p=0.384	p=0.599	p=0.519	p=0.313	p=0.320
Yes, happy (n=10)	8.3 (5); 3-18	25-34	10/0	2.3 (1.2); 1-4	0.8 (0.9); 0-2	3.5 (4.3); 0-10	44,600 (41,564); 5,000-130,000 [9]
Yes, want to do more (n=8)	8.8 (9.1); 2-30	35-44	7/1	1.8 (0.7); 1-3	1.4 (1.7); 0-4	7.5 (10.1); 0-28	29,333 (21,087); 6,000-60,000 [6]
No, do not use my skills (n=3)	1.7 (1.2); 1-3	18-24	2/1	1.7 (0.6); 1-2	0.3 (0.6); 2-1	0.3 (0.6); 0-1	4,850 (3,323); 2,500-7,200 [2]
No, asked to perform skills out of scope of training (n=1)	2	25-34	1/0	2	1	12	N/A

Future	p=0.883	p=0.364	p=0.488	p=0.749	p=0.730	p=0.257	p=0.781
Strongly agree (n=11)	8.9 (8.2); 1-30	25-34	10/1	2.2 (0.9); 1-4	1.0 (1.2); 0-4	3.5 (5.5); 0-15	27,656 (26,030); 2,500-65,000 [9]
Agree (n=5)	6.8 (6.3); 3-18	25-34	5/0	2.2 (1.3); 1-4	0.6 (0.9); 0-2	3.2 (4.1); 0-10	48,050 (58,428); 5,000-130,000 [4]
Somewhat agree (n=2)	4 (1.4); 3-5	25-34	2/0	1.5 (0.7); 1-2	1 (0); 1	5 (7.1); 0-10	45,000 (28,284); 25,000-65,000 [2]
Neutral (n=1)	8	45-54	1/0	1	0	0	N/A
Somewhat disagree (n=1)	2	25-34	1/0	2	0	12	N/A
Disagree (n=2)	5 (4.2); 2-8	25-34	1/1	1.5 (0.7); 1-2	2 (2.8); 0-4	15.5 (17.7); 3-28	28,000 (31,113); 6,000-50,000 [2]
Satisfied with Pay	p=0.579	p=0.373	p=0.279	p=0.775	p=0.723	p=0.409	p=0.682
Extremely satisfied (n=1)	8	25-34	1/0	2	2	1	60,000 [1]
Moderately satisfied (n=8)	10.9 (8.6); 3-30	35-44	8/0	2.3 (1); 1-4	0.5 (1.4); 0-4	1.8 (2.9); 0-8	20,840 (24997); 5,000-65,000 [5]
Slightly satisfied (n=1)	5	35-44	1/0	3	1	2	50,000 [1]
Neutral (n=6)	6 (5.9); 3-18	25-44	6/0	1.8 (1.2); 1-4	1.2 (0.8); 0-2	5.8 (6.6); 0-15	49,067 (46,922); 7,200-130,000 [6]
Slightly dissatisfied (n=1)	10	25-34	1/0	1	1	12	20,000 [1]
Moderately dissatisfied (n=3)	3.7 (3.8); 1-2	25-34	2/1	2	1.7 (2.1); 1-4	5.3 (5.9); 1-12	50,000 [1]
Extremely dissatisfied (n=2)	1.5 (0.5); 1-2	25-34	1/1	1.5 (0.7); 1-2	0	14 (19.8); 0-28	4,250 (2,475); 2,500-5,000 [2]
Opportunity for Career Development *(p=0.009)	p=0.215	p=0.803	p=0.530	p=0.171	p=0.565	p=0.725	p=0.562
Strongly agree (n=3)	13.7 (14.4); 3-30	25-34	3/0	1.7 (0.6); 1-2	2 (2); 0-4	1 (1); 0-2	33,600 (37,335); 7,200-60,000 [2]
Somewhat agree (n=2)	12 (8.5); 6-18	35-44	2/0	3.5 (0.7); 3-4	1 (1.4); 0-2	5 (7.1) 0-10	72,500 (81,317); 15,000-130,000 [2]
Neutral (n=7)	4.1 (2.2); 1-8	25-34	7/0	1.7 (0.8); 1-3	0.9 (0.7); 0-2	3.9 (6.1); 0-15	34,950 (27,126); 2,500-65,000 [6]
Somewhat disagree (n=7)	7.6 (4.6); 2-15	25-44	6/1	2 (1.2); 1-4	0.8 (1.5); 0-4	7.9 (9.9); 0-28	25,533 (25,792); 5,000-65,000 [6]
Strongly disagree (n=3)	4.3 (4.9); 1-10	25-34	2/1	2	0.3 (0.6); 0-1	4.3 (6.7); 0-12	12,000 [1]

Notes.
M (SD); R = Mean (Standard Deviation), Range
N = Number Count
(M/F) = (Male/Female)
N/A = No Answer
P value = Within group differences between subcategories
*(P value) = When compared with Permanent Employment

Table 3: Strength and Conditioning Coach Profile as a Other-Employed SCC (n=23)

	Years as a practitioner M (SD); R *(p=0.015)	Age range	Sex (M/F)	Number of roles M (SD); R	Days travelling PM M (SD); R	Days overtime PM M (SD); R *(p=0.012)	Annual Salary M (SD); R [*n*] *(p=0.005)
Qualification	p=0.577	p=0.111	p=0.958	p=0.592	P=0.099	p=0.668	p=0.423
Masters (n=7)	6.6 (1.9); 4-10	25-34	5/2	1.4 (0.5); 1-2	2.9 (2.9); 0-7	8.9 (10); 0-25	43,833 (39.066); 3,000-100,000 [6]
PG Dip (n=3)	2.7 (1.5); 1-4	18-24	2/1	1	0	2.7 (4.6); 0-5	0 [2]
Bachelors (n=10)	4.4 (5.3); 1-16	25-34	8/2	1.6 (0.7); 1-3	2.2 (3.1); 0-10	4.5 (6.7); 0-20	25,795 (37,118); 0-95,000 [8]
Undergraduate Dip (n=1)	8	35-44	1/0	1	10	0	70,000 [1]
Certificate (n=1)	2	25-34	1/0	1	0	0	NA
No qualification (n=1)	2	35-44	1/0	1	0	0	921.00 [1]
Accreditation	p=0.795	p=0.886	p=0.260	p=0.925	p=0.858	p=0.048	p=0.914
Yes (n=8)	5.4 (3.1); 1-10	25-34	7/1	1.4 (0.5); 1-2	2.6 (2.7); 0-7	8.9 (9); 0-25	33,455 (38,251); 0-100,000 [8]
Working towards (n=11)	4.2 (4.5); 1-16	25-34	7/4	1.4 (0.7); 1-3	2.3 (4); 0-10	1.1 (3.6); 0-12	25,191 (32,563); 0-70,000 [7]
No (n=4)	5.3 (4.6); 2-12	25-34	4/0	1.5 (0.6); 1-2	1.5 (1.9); 0-4	8 (8.6); 0-20	32,099 (54478); 0-95,000 [3]
Level of employment	p=0.059	p=0.274	p=0.261	p=0.641	p=0.001	p=0.117	p=0.018
Full-time Professional (n=6)	8.3 (4.6); 2-16	25-34	6/0	1.3 (0.5); 1-2	6.2 (3.4); 2-10	10.7 (10.1); 0-25	61,606 (32,558); 1,296-100,000 [6]
Semi-Professional (n=4)	5.5 (4.4); 3-4	25-34	4/0	1.8 (0.5); 1-2	2.3 (1.7); 0-4	6 (9.5); 0-20	45,573 (45,078); 6,720-95,000 [3]
National (n=2)	3.5 (2.1); 2-5	35-44	1/1	1	0	0	3,000 [1]
Amateur (n=4)	3.8 (2.1); 1-7	25-34	3/1	1.3 (0.5); 1-2	1.5 (2.4); 0-5	4.8 (4.1); 0-10	10,000 (13,229); 0-25,000 [3]
Multiple (n=7)	2.3 (1.4); 1-4	25-34	4/3	1.4 (0.8); 1-3	0	1.1 (3); 0-8	184 (412); 0-921.00 [5]
Sports	p=0.047	p=0.518	p=0.001	p=0.670	p=0.003	p=0.254	p=0.022
Rugby Union (n=9)	5.1 (3.8); 1-12	25-34	9/0	1.4 (0.5); 1-2	2.2 (2.5); 0-7	6.6 (8); 0-20	42,574 (43,223); 0-100,000]7]
Cricket (n=3)	10.3 (4.9); 7-16	35-44	3/0	1	8 (3.5); 4-10	12.3 (12.5); 0-25	69,447 (958); 68,340-70,000 [3]
Olympics/Paralympic (n=1)	2	25-34	1/0	1	0	0	N/A
Other (n=3)	2 (1); 1-3	25-34	3/0	1.3 (0.6); 1-2	1 (1); 0-2	1.7 (2.9); 0-5	461 (651); 0-921.00 [2]
Multiple (n=7)	3.6 (2.6); 1-6	25-34	2/5	1.6 (0.8); 1-3	0.7 (1.9); 0-5	2 (3.8); 0-10	5,500 (9,772); 0-25,000 [6]
10+ hour days	p=0.000	p=0.221	p=0.515	p=0.631	p=0.006	p=0.043	p=0.000
0 (n=11)	2.2 (1.3); 1-5	25-34	7/4	1.3 (0.6); 1-3	0.3 (0.6); 0-2	1.2 (2.6); 0-8	560 (1,046); 0-3,000 [7]
3-5 (n=4)	6.8 (0.4); 6-7	25-34	3/1	1.5 (0.5); 1-2	3.3 (1.9); 0-5	10.5 (8.8); 3-25	40,000 (26,220); 5,000-70,000 [4]
6-15 (n=3)	3 (0.8); 2-4	18-24	3/0	1.7 (0.5); 1-2	1.7 (1.2); 0-3	2.7 (1.9); 0-4	14,339 (14,778); 1,296-35,000 [3]
16-20 (n=5)	10 (4); 4-16	35-44	5/0	1.4 (0.5); 1-2	6.2 (3.8); 0-10	10.4 (9); 0-20	83,335 (14,287); 68,340-100,000 [4]
Satisfied with Skills	p=0.000	p=0.010	p=0.140	p=0.918	p=0.000	p=0.097	p=0.000
Yes, happy (n=5)	10.6 (3.6); 7-16	35-44	5/0	1.4 (0.5); 1-2	7 (3); 4-10	11 (9.3); 0-20	78,668 (17,692); 60,000-100,000 [5]
Yes, want to do more (n=14)	3 (2); 1-7	25-34	9/5	1.4 (0.6); 1-3	1.1 (1.7); 0-5	4 (6.9); 0-25	10,161 (21,251); 0-35,000 [12]
No, do not use my skills (n=4)	3.8 (2.5); 1-7	25-34	4/0	1.5 (0.6); 1-2	0.5 (1); 0-2	1 (2); 0-4	25,000 [1]

Future	p=0.547	p=0.736	p=0.336	p=0.860	p=0.383	p=0.004	p=0.141
Strongly agree (n=4)	6 (6.7); 2-16	25-34	4/0	1.5 (0.6); 1-2	3 (4.8); 0-10	4 (5.7); 0-12	37,530 (43,572); 6,720-68,340 [2]
Agree (n=13)	4.3 (3.3); 1-12	25-34	8/5	1.5 (0.7); 1-3	2.1 (3); 0-10	2.8 (5.9); 0-20	26,930 (935,978); 0-95,000 [10]
Somewhat agree (n=4)	3.3 (2.6); 1-7	25-34	4/0	1.5 (0.5); 1-2	0.3 (0.5); 0-1	4.3 (3.3); 0-8	6,481 (12,354); 0-25,000 [4]
Neutral (n=1)	10	35-44	1/0	1	7	20	100,000 [1]
Disagree (n=1)	7	25-34	1/0	1	4	25	70,000 [1]
Satisfied with Pay	p=0.712	p=0.651	p=0.724	p=0.704	p=0.667	p=0.560	p=0.776
Extremely satisfied (n=1)	2	25-34	1/0	1	0	0	N/A
Moderately satisfied (n=6)	6.7 (6.4); 1-16	25-34	5/1	1.2 (0.4); 1-2	4 (4.9); 0-10	5.3 (8.6); 0-20	46,852 (43,648); 0-95,000 [5]
Slightly satisfied (n=2)	4.5 (2.1); 3-6	25-34	1/1	1.5 (0.7); 1-2	3.5 (2.1); 2-5	5 (7.1); 0-10	5,000 [1]
Neither (n=4)	2.5 (3); 1-7	18-24	2/2	1.5 (1); 1-3	1.3 (1.9); 0-4	7.5 (11.9); 0-25	17,500 (35,000); 0-70,000 [4]
Slightly dissatisfied (n=7)	4.1 (1.6); 2-7	25-34	6/1	1.6 (0.5); 1-2	1.3 (1.7); 0-4	1.6 (2); 0-4	21,203 (25,656); 1,296-60,000 [5]
Moderately dissatisfied (n=2)	6.5 (4.9); 3-10	25-34	2/0	1	3.5 (4.9); 0-7	14 (8.5); 8-20	50,000 (70,711); 0-100,000 [2]
Extremely dissatisfied (n=1)	7	25-34	1/0	2	0	4	25,000 [1]
Offers Opportunity for Career Development	p=0.289	p=0.729	p=0.715	p=0.574	p=0.339	p=0.037	p=0.634
Strongly agree (n=3)	3 (1); 2-4	25-34	3/0	1.3 (0.6); 1-2	1 (1.7); 0-3	1.3 (2.3); 0-4	20,860 (19,997); 6,720-35,000 [2]
Somewhat agree (n=12)	4 (3.5); 1-12	25-34	8/4	1.6 (0.7); 1-3	1.8 (3); 0-10	2.3 (5.8); 0-20	25,580 (38,157); 0-95,000 [9]
Neutral (n=1)	3	18-24	1/0	1	0	8	0 [1]
Somewhat disagree (n=6)	7.8 (5); 1-16	25-34	5/1	1.2 (0.4); 1-2	4.5 (3.7); 0-10	12.7 (8.3); 4-25	44,723 (40,545); 0-100,000 [6]
Strongly disagree (n=1)	4	25-34	1/0	1	0	0	N/A

Notes.
M (SD); R = Mean (Standard Deviation), Range
N = Number Count
(M/F) = (Male/Female)
N/A = No Answer
P value = Within group differences between subcategories
*(P value) = When compared with Permanent Employment

Discussion

The purpose of this study was to explore the SCC working conditions within NZP. Specifically, the study focused on comparing the working conditions of coaches categorised as employed permanently, self-employed and other-employed. Initial findings showed that the SCC workforce tended to be a homogenous group, characterised by 25-34 year old, New Zealand European, males with a tertiary level education, industry-relevant accreditation, varying income levels and workloads that frequently exceed contracted expectations.

Demographics

The results of this survey show similar results to the existing literature surrounding SCCs and high-performance coaching staff working within America and Australia (11,14,15,22,34,35). Females were underrepresented in the strength and conditioning profession with only 11% (n = 8) of participants being female. This reflects the findings in the high-performance and sport science work-force in Australia (38) and the large body of research based within the American collegiate setting (14,15,35). Although there was no difference in the mean age range of SCCs within their groups, those employed permanently had the longest industry experience compared to the self-employed or other-employed SCCs.

Education and Training

The NZP SCCs aspire to have a strong theoretical backing that underpins their practice, like their counterparts in Australia (11) and the United States (14,15,35,39). Approximately 95% held a tertiary level qualification, with the most frequent qualification being a Bachelor's degree. Permanently employed coaches had the highest educational background, with the highest count of Masters degrees. Whereas the most common qualification for self-employed and other-employed SCCs was a Post-Graduate Diploma and

Bachelor's degree respectively. A similar trend was seen with industry-relevant accreditations where 80% of participants had either obtained, or were working towards obtaining, an industry-relevant accreditation. Permanently employed SCCs (85.2%, n = 23) either had or were working toward obtaining accreditation, which was slightly higher than self-employed or other-employed SCCs. Permanently employed SCCs tend to have the greatest number of years experience and the highest qualification in regards to tertiary education and industry-specific accreditation. This mirrors the permanent SCC in the Division 1A, 1AA and 1AAA American collegiate setting, where head SCCs typically hold both a Master's degree and industry-relevant accreditation (14). Previously, literature shows that Division 1 head SCCs have reported both a Master's degree and industry-relevant accreditation to be essential for a head SCC role (14).

Sports

Rugby union continues to be New Zealand and this region's most popular sport, with New Zealand Rugby (40) estimating there are 157, 218 registered players participating across all age and competition levels. To ensure future success, premier clubs, provincial rugby unions and professional sides are therefore focussed on developing high-performance models that improve the physical preparation of players (41) in the areas of strength, speed, endurance and body composition. It is therefore unsurprising that this sport is the biggest employer of SCCs in this region with over 60% (n = 44) of participants stating that they are currently working with rugby union players of multiple different levels.

Hours and Remuneration

Despite ~75% of survey participants stating they would prefer to be employed full-time in a single role, only ~50% (n = 37) of our participants currently worked 30+ hours per

week. This suggests that many SCCs have to bolster their employment through multiple roles, with particular relevance to self-employed coaches who were on average working two roles at any given time. However, working multiple roles have associated difficulties, with the results of this survey suggesting that over 50% of the self-employed SCCs did not have signed contracts with all of their employers. The NSCA 2018 SCC Salary Survey Overview (42) of 2,325 certified SCCs from within North America indicated that the average United States SCC salary was $58,623 (USD) per annum compared to the lower NZP SCC average salary of $31,140USD ($47,181 NZD) per annum. However, it is important to note that the current study's survey results included SCCs volunteering and interning whereas it was not clear from the NSCA Salary Survey Overview whether there was inclusion criteria for participants that may have excluded volunteers and interns not receiving any form of payment. Similarly, mean SCC salaries explored within the American collegiate setting found the mean salaries of Division 1A, 1AA and 1AAA SCCs in the early 2000's to be $50-59,999, $30-39,999 and $30-39,999 USD per annum respectively (14). Therefore, permanently employed SCCs in the NZP region have competitive salaries with their counterparts in the United States with an average salary of $44,491 USD ($67,687 NZD) per annum. Additionally, this average salary for NZP SCCs also sits above the guidelines for associate SCCs ($60,000 AUD) and at the lower end of the guidelines for professional SCCs ($60,000-90,000 AUD) recommended by the ASCA Professional Coach Accreditation Scheme (43). When comparing the average annual salary of permanently employed SCCs to other professions within NZP, it is on par and or slightly higher than that of first year police officers ($55,000-60,000), seconday school teachers ($51,000) and registered nurses ($54,000) (44). However, this does not take into account education level nor experience level, as police officers with more than 4 years experience reportedly earn anywhere from $60,000-

119,000 per annum (44).

Workload and Hours

Although permanent employment afforded the SCC greater financial benefits and the security of consistent work, it does come with challenges. The NZP SCCs experienced significant differences in workload dependant on employment status. Permanent practitioners regularly working above contracted hours, frequently travelled away from home and regularly completed 10+ hour workdays as their normal workload. This is consistent with the findings of workload conditions in Australian high-performance sport staff whose work was characterised by long hours and a poor human resource structure by the employing organisation (10,11).

Job Satisfaction

The job satisfaction of SCCs working within Division 1 Football in North America has previously been reported as high (22). SCCs often derive satisfaction from building relationships with their athletes, job autonomy, being involved with sports of personal interest and their current work environment (22). SCCs with lower job satisfaction related this to their current work situation rather than the role of being a SCC. This suggests that the role of being a SCC is a passion of many practitioners, however a troublesome work environment will substantially impact overall perceived satisfaction. This survey aimed to investigate certain factors relating to a SCCs work environment by questioning remuneration satisfaction and whether a coach felt as if their work was valued by those they directly worked with (organisation, coaches, athletes, support staff and immediate inline manager). The survey also questioned whether or not their current employer offers a good chance of future employment, whether the strength and conditioning field offers good opportunity for

career development and whether or not the participant intends to continue in this field in 5 years time. Dawson (11) noted that SCCs are often dealing with aggressive and demanding coaches and athletes, however NZP results indicated that SCCs felt that their work was valued by both the organisation, and those directly involved with the organisation they are currently working for. When asked if the strength and conditioning field offers good opportunity for career development, permanent employees answered significantly more positive than their self-employed and other-employed colleagues. Additionally, permanently employed SCCs strongly intended to continue within the strength and conditioning field over the next 5 years. These responses by permanent employees were more positive than their colleagues of different employment types most likely due to the fact that they are already reaping the aforementioned benefits of being a permanent employee.

Practical Applications

This research affords education providers, governing bodies and practitioners an insight into the common working conditions of SCCs within NZP. Even though this study is focused within the South Pacific, the results have both theoretical and applied implications globally. Theoretically, this research provides initial data on the working conditions of SCCs within this region, whilst also building upon and expanding the existing literature on this topic globally. Within the field of sport and exercise science, the difficulties in transition from student to professional have already been examined (44). The number of sports science and strength and conditioning graduates simply outweigh the number of roles available, this overabundance of graduates has created rife competition within the industry (45). Therefore, practitioners and students wishing to enter this profession may choose to apply this research by using it to inform professional development and career-related decision making in order to gain a competitive advantage or help to develop a meaningful career.

Full-time permanent employment with a sporting or government organisation is typically the goal of most emergent SCCs. This gives the SCC the most secure, well-remunerated and rewarding role, although it is associated with significant challenges which include a large number of days travelling away from home, high frequency of working above agreed contract hours and 10+ hour days. In order for an SCC to aspire to gain full-time permanent employment, the results from this study suggest the SCC needs to match or exceed factors of the 'permanent employment' profile expressed in Table 1. Important attributes are:

- Nearly a decade worth of experience within the field
- Educated to Master's degree level
- Obtain an industry-relevant accreditation.

The results of this survey suggest that permanent roles in the NZP region are most available in Rugby Union. These roles offer higher remuneration relative to self-employed or other-employed SCCs and come with ancillary benefits. However, these roles typically demand both extensive employment hours (frequently beyond agreed contractual requirements) and travel.

The findings of this study, in addition to the existing literature and previous recommendation of Dwyer et al (38), have determined aspects in the conditions of the SCC workplace that require addressing by accreditation and educational bodies if the industry is to remain a long-lasting and appealing career option.

- Women: There is a notable lack of females employed as SCCs, with only 11% (n = 8) of this study's participants identifying as female. Previous literature has suggested that this absence in the high-performance sport work-force may be due to the non-family friendly employment conditions limiting participation (38). There is however, a notable gap for females to lead both male and female athletes, as the key tenants for a quality SCC lie outside one's gender.

- Remuneration: A large pay disparity for SCCs exists between government organisations, educational facilities, private sector gyms, professional and non-professional clubs. This varied pay scale may be a factor in the reduced appeal of the strength and conditioning profession, especially considering the preferred education and qualification requirements. This combination of 'varied pay' and 'high qualification' may further hinder job satisfaction and limit emerging SCCs willingness to stay in the industry long enough to build the experience and networks required to achieve permanent employment.
- Contracts and hours: Non-existent contracts, time away from home, working above agreed hours and 10+ hour workdays have been found to be the norm for SCCs in NZP. However, it is important for employers to note the detrimental effect these factors have on SCCs job security, job satisfaction, job retention, work quality and burn out.
- Career development: There is a need for employers to provide career stability for the SCC through the same organisational structure that is provided for athletes and other management (11). There is also a need for educational facilities and accreditation bodies to educate emerging coaches of the potential opportunities available in the industry as well as common challenges faced and how to overcome them. This ensures the SCCs are in the best possible position to make informed decisions regarding their profession and career development.

Strengths and Limitations

This research focused on SCCs working within the context of NZP. Therefore this needs to be considered before applying the findings internationally. This study is the first of its nature in NZP and uniquely provides data on the working conditions of the profession to

current and emerging SCCs. The application of the findings may allow for more informed professional development and career-related decision making.

Limitations of the study were the:

1. Small sample size: It was difficult to quantify the total number of SCCs working within NZP. Therefore, to compare findings of this surveys sample with the total number of SCCs working in this region would prove difficult as there is currently no governing body for NZP providing SCC data.
2. Response rate: It was impossible to calculate a response rate for this survey due to the fact that it was shared on social media based platforms such as LinkedIn and Facebook both in this region and internationally. Although a multi-strategy approach known as the Tailored Design Method (37) was utilised in order to reach participants, the total number of participants, typical of those working in high-performance sport, was seemingly low (16). However, given the limited number of employment opportunities in the profession, this is hardly surprising.
3. Results only represent one point in time. Similar to Dwyer (38), the results of this survey only represent one point in time.
4. The design of some questions may have also influenced the results. For example: age was limited by the nine year age ranges rather than utilising an exact age input that would have served as a more accurate option for making comparisons. Additionally, it would have been beneficial to ask participants for average weekly hours worked and not just 10+ hour days and overtime.

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APPENDICES

APPENDIX A
Institutional Board Ethical Approval

1 May 2019

Bennett Jones
c/- Otago Institute of Sport
Otago Polytechnic
Private Bag 1910
Dunedin 9054

Dear Bennett

Re: Application for Ethics Consent

Reference Number: 802
Application Title: *An examination of the Working Conditions of Oceania Strength & Conditioning Coaches within elite sport.*

Thank you for your application for ethics approval for this research project.

This letter is to advise that the Otago Polytechnic Research Ethics Committee review panel has approved your application, and are satisfied that requested amendments were made as previously notified.

We wish you well with your work and remind you that at the conclusion of your research to send a brief report with findings and/or conclusions to the Ethics Committee.

All correspondence regarding this application should include the project title and reference number assigned to it.

This protocol covers the following researchers: Bennett Jones.

Regards

Liz Ditzel

Dr. Liz Ditzel
Chair, Otago Polytechnic Research Ethics Committee

APPENDIX B
Online Survey

New Zealand & Pacific Islands Strength & Conditioning Work Conditions Survey

INTRODUCTION

.

Welcome to the Strength & Conditioning Coach Work Conditions Survey.

The aim of this research is to understand the working life of people currently employed within the field of Strength & Conditioning in New Zealand and the Pacific Islands.

This survey is a data collection component for a thesis that will be submitted in partial fulfilment of requirements for the degree of: Master of Applied Science (Physical Conditioning). Completed at: The Institute of Sport, Exercise & Heath (Otago Polytechnic).

This research project has been approved by the Otago Polytechnics Ethics Committee.

On average, this survey takes between 10-12 minutes to complete.

CONSENT

.

Consent to participate

By completing the survey, you are providing us with consent to use your responses in the analysis and presentation of the research. Once you submit the completed form you will not be able to withdraw it.

Assurances of anonymity

You will not be personally identified in any reports published as a result of the survey. Your comments and feedback are completely anonymous. The email address that you may choose to give us will not be linked to the results.

Use of the data

Following completion of this research, we may submit reports to sport science journals and conferences in New Zealand and internationally.

.

Consent statement:

I have read the material above and I freely and voluntarily consent to participate in this study.

Yes I consent

No, I do not consent

QUALIFIER

.

In this survey, the term 'Strength & Conditioning Coach' is used to denote a person engaged in the provision of physical preparation support within a sporting context.

According to the NSCA, this role can be defined as:

(i). 'A professional who applies scientific knowledge to train athletes for the primary goal of improving their athletic performance. They conduct sport-specific testing sessions, design and implement safe and effective strength training and conditioning programs and provide guidance regarding nutrition and injury prevention. Recognising that their area of expertise is separate and distinct, Strength & Conditioning Coaches consult with and refer athletes to other professionals when appropriate'

Please note: this survey targets coaches working within a sporting context (from amateur to elite). It is not appropriate for personal trainers solely working within a general population setting.

Using this definition, have you been working as a Strength & Conditioning Coach within the last 12 months?

Yes

No

.

How long have you been working as a Strength & Conditioning Coach?

Take into account all the of time you have been working in this role. Please add a number in years below:

DEMOGRAPHICS

Q68. This sections covers demographic questions.

. **Name (optional):**

. **Email address (optional):**

. **Age:** What is your age?

18-24
25-34
35-44
45-54
55-64
65 or above

. **Gender:** What is your gender?

Male
Female
other (specify)

. **Ethnicity:** What is your ethnicity?

Tick as many boxes as you feel apply to you

New Zealand European / Pakeha

Australian

New Zealand Maori

Pasifika (please specify)

Indigenous Australian

Torres Strait Islander (please state):

British

Asian

Indian

Other (please specify)

SPORTS

Q69. The following questions relate to the sports you work with as a Strength & Conditioning Coach.

.

What level best describes the level of athlete you primarily work with in your role(s)?

Full-time professional

Semi-professional

Olympic / Paralympic

National

Amateur

Other (Please specify):

. **Which sport are you currently employed/contracted to work with?**

Please select all that apply to you.

Rugby Union

Rugby league

Soccer

Netball

Cricket

Olympic / Paralympic sport (please specify)

Other sport(s) (please specify)

.

Where are you based (mainly)?

New Zealand

Pasifika (please specify)

Other (please specify)

CURRENT ROLE

. The following questions ask about your current Strength & Conditioning role, or roles.

.

How many organisations are you currently contracted/employed to provide Strength & Conditioning support?

1

2

3

More than 3

.

You said you were working for one employer. Please state the name of this employer.

Employer

. You said you were working for more than one employer. Please state the name of these employers.

Employer

Employer

Employer

Employer

Employer

CONTRACT

. **As a Strength & Conditioning Coach, are you employed...**

Permanent (full-time or equivalent)

Permanent (part-time)

Fixed Term

Casual / Hourly

Intern - paid

Intern – unpaid

Self-Employed / Contractor

Other (please specify)

.

Do you have an employment contract or a signed agreement with your current employer(s)?

Yes, for all roles

Yes, but for not for all roles

No

WORK HOURS

. The following questions ask about the hours you work and your contract. We acknowledge that these are not fixed and can be changeable. Please estimate your answers based on your current role(s).

. **In total, how many hours are you currently employed/contracted to work in your Strength & Conditioning role?**

Full-time (30 or more hours per week)

Part-time (less than 30 hours per week)

.

Would you prefer to work as a Strength & Conditioning Coach ...?

Full-time

More hours but not full-time

The same number of hours

Less hours

Don't Know / no opinion

ACTUAL WORK

.

How many days per month on average do you spend doing the following activities in your role:

Travelling away from home

Working over and above your agreed / contracted hours?

Working 10 hours or more a day?

REMUNERATION

. The following questions ask about your remuneration (or pay). We acknowledge that you may be employed by a number of organisations. Please estimate your answers based on your current role or roles.

. **The country / currency I am paid in is:**

.

Salary: What is your gross (before tax) annual salary from your Strength & Conditioning work?

If you are a contractor, can you please estimate your fee based on one of the options below.

Annual salary

If you do not know your gross (before tax) annual salary, what is your weekly (before tax) wage rate?

If you do not know your gross (before tax) annual salary what is your hourly (before tax) wage rate?

.

Do you get paid for working overtime?

Yes, at the same rate I am paid

Yes, at a higher rate of pay

No, I do not get paid extra for working overtime

BENEFITS

.

Do you receive other benefits as part of your employment?

Yes

No

.

If Yes, which benefits do you receive?

Do not tick items that are considered essential to your job role.

Medical insurance

Accreditation membership fees

Uniform

Professional development allowance

Discounts/reduced clinical fees

Performance-related bonuses

Tickets

Vehicle

Accommodation

Computer/tablet

Phone / Phone calls

Other (please specify)

COMMENT - remuneration

. **Overall, how satisfied are you with the total remuneration your receive for your Strength & Conditioning work?**

Extremely satisfied

Moderately satisfied

Slightly satisfied

Neither satisfied nor dissatisfied

Slightly dissatisfied

Moderately dissatisfied

Extremely dissatisfied

INTRINSIC WORK QUALITY

.

The following questions are related to your intrinsic work quality and the training / education of Strength & Conditioning Coaches.

. To what extent do you agree with the following statements?

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I feel my work is valued by the organisation / organisations that I work for	○	○	○	○	○
I feel my work is valued by the coach(es) I directly work with	○	○	○	○	○
I feel my work is valued by the athletes I directly work with	○	○	○	○	○
I feel my work is valued by the other members of the support team I work with	○	○	○	○	○

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I feel I am well supported by my immediate line manager					
I feel my current employer offers good opportunity for further employment					
I feel the Strength & Conditioning field offers good opportunity for career development					

TITLE

. **Professional Title:** What is your preferred professional title(s)?

Please select as many answers as apply to you.

Strength & Conditioning Coach

Physical Preparation Coach

Strength Coach

Conditioning Coach

Biomechanist

Specialist coach

Coach

Sport Scientist

Other (please specify)

EDUCATION / TRAINING

. **Have you completed formal educational qualifications?**

If yes, please state the name of the highest level qualification achieved

Yes, in a related subject area

Yes, but in an unrelated subject area

No

.

Do you currently hold or are working towards a recognised industry accreditation relevant to this profession?

If yes, please state qualification provider and level achieved/working towards.

Yes, I have achieved...

No, but I am currently working towards...

No

. **I hold / am working towards this qualification because...**

My employers required this

It is the gold standard in my field

It was part of another qualification I completed

etc...

.

If not, why not?

You can select as many reasons as you want from this list

Not aware of any recognised industry accreditation in this field

Not relevant / Don't see the value in holding an accreditation

Personal cost/employer won't pay

No time

Employer does not require formal accreditation for employment

I don't have the skills / qualifications required

Other (please specify)

SKILLS

.

Considering the skills you were trained for, are you satisfied with the level of skills you are using in your current role?

Yes, I am happy and satisfied

Yes, although I'd like to do more

No, I rarely get to do advanced skills that I was trained for

No, I am asked to perform skills I am not adequately trained for

Other (please specify)

FUTURE

.

Finally, to what extent do you agree with the following statement:

I see myself working in this profession in 5 years' time

Strongly agree

Agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Disagree

Strongly disagree

END OF SURVEY

APPENDIX C
Invitation E-Mail

Dear * Insert Name *,

Please allow me to introduce myself, my name is Bennett Jones and I am a Masters Student at the Institute of Sport, Exercise & Health (Otago Polytechnic) in Dunedin, New Zealand.

I have put together a research project exploring the work conditions of Strength & Conditioning Coaches in New Zealand and the Pacific Islands. This is a data collection component for a thesis that will be submitted in partial fulfillment of a Masters Degree in Applied Science (Physical Conditioning). The research has been given ethical approval by the Otago Polytechnic Ethics Committee.

The first stage of this project is a survey of practitioners within New Zealand and the Pacific Islands.

I would be extremely grateful if you could support this project by completing this survey.

Thanks for your support. Please let me know how you find the survey.

Thank you
Bennett Jones, Masters Student at Otago Polytechnic
Richard Humphrey, Otago Polytechnic
Dr. Codi Ramsey, Otago Polytechnic
The Research team
NZ & PI Strength & Conditioning Coach Work Conditions Survey

Link: **http://tinyurl.com/y2wo8xrk**
