

Job satisfaction in sport science and sports medicine, an international cross-sectional survey

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ABSTRACT

Background/Aim Job satisfaction (JS) and professional burnout among health professionals have been shown to affect several factors: healthcare quality, patient safety, patient satisfaction, turnover/reduction of work effort, healthcare costs and other personal consequences. In general, factors that impact JS for health professionals include professional autonomy, workplace conditions, rewards/recognition, compensation and work–life balance. However, less is known about JS of professionals working in sport science and sports medicine (SSSM) especially from an international perspective. This paper addresses JS among SSSM professionals in an international context.

Methods In a cross-sectional study design, the Interprofessional Collaboration (IPC) in SSSM survey, an online survey which included the Warr-Cook-Wall JS questionnaire for international respondents working in fields associated with SSSM, was distributed globally to persons working in SSSM. Data from 320 respondents with complete data sets from USA (n=83), Canada (n=179) and Europe (n=58) were collected.

Results High values were detected in the overall JS of the total sample with some differences in variables relevant for JS internationally and a relationship between positive perceptions of IPC and overall JS. The most important determinant for overall JS in professionals working in SSSM is the opportunity to use abilities.

Conclusion JS has an important influence on the work and services provided by SSSM professionals and experience with IPC can have a positive effect on JS which, in turn, can improve quality of life for clients, patients and professionals. Employers should regard most impactful determinants of overall JS when designing working conditions for their employees.

Careers in the health professions can be rewarding and impactful. Health professionals are often the most highly trusted individuals and they are some of the most in demand programmes at universities and colleges.^{1,2} However, professional practice also comes with levels of stress and burden. Professional ‘burnout’ characterised by emotional exhaustion, cynicism and diminished sense of accomplishment from work has become prevalent among health professionals.³ Burnout has been shown to affect: healthcare quality and patient safety; patient satisfaction;

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Job satisfaction and burnout among sport science and sports medicine professionals impact patient and clients and are affected by factors of professional autonomy, workplace conditions, rewards/recognition, compensation and work–life balance.

WHAT THIS STUDY ADDS

⇒ Internationally, job satisfaction among sport science and sports medicine professionals is generally good but differs by region and has a positive relationship with interprofessional collaboration experience.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ Job satisfaction is an essential consideration in clinical practice; addressing contextual factors and intentional interprofessional engagement are keys to enhancing job satisfaction.

turnover and reduction of work effort; healthcare costs and other personal consequences.⁴ The ‘Triple Aim’, which looks to enhance the patient experience, improve health of the population and reduce healthcare costs has been recognised as a framework for system improvement.⁵ This has been expanded to a ‘Quadruple Aim’ to also include the goal of improving the work–life of healthcare clinicians and staff.⁶

Most of the research around health professions concerning job satisfaction (JS) are physicians and nurses, however, less is known about JS of professions working in sport science and sports medicine (SSSM) especially from an international perspective. Sports medicine, while not a discrete profession in itself, exists within many professions who must work together to deliver care in a unique and highly visible context.⁷ Sports science professionals are similarly challenged regarding their ‘fit’ on these healthcare teams.^{8,9} This paper addresses JS among SSSM professionals in an international context.



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BACKGROUND

Theoretical Foundation

There are several widely accepted theories that contribute to JS. Bandura's social-cognitive theory provides a agentic perspective where people are proactive regulators of their motivation and actions.¹⁰ This theory is based around a concept of self-efficacy where individual expectations of personal efficacy will activate coping behaviours, relative amount of work expended and willingness to sustain that work in the face of adverse experiences.¹¹ Expectations of personal efficacy are based on their personal psychological state, interactions with others as well as experience of success in the work.¹¹

Based on Bandura's work, Locke and Latham developed the goal setting theory suggesting that satisfaction results from setting specific, difficult goals and those relationship of goals to affect their work.¹² With regards to JS, the goal setting theory identifies several intrinsic moderators, goal commitment and self-efficacy, along with extrinsic moderators such as feedback and task complexity.¹²

The conservation of resources (COR) theory is a resource-oriented model and is based on the supposition that people strive to retain, protect and build resources and that what is threatening to them is the potential or actual loss of these valued resources. JS and professional identity can be affected because workplace stressors provide threats to these resources. They are affected by perceived role in a specific culture/context as well as the objective circumstances of their job or work.¹³

Job satisfaction and health professionals

Recruitment and retention of health professionals have been prioritised across healthcare systems.^{14 15} In view of the shortage of healthcare workers in many countries, for example, Germany¹⁴ and Switzerland,¹⁵ JS in healthcare professions is an important factor impacting recruitment and retention among providers.^{16 17} Additionally, JS of healthcare professions can influence the quality of care in the healthcare system.¹⁸

Studies have shown that some healthcare professions have a high workload and feel that their work is not very appreciated.^{17 19 20} High workloads can reduce patient safety, and low JS can be associated with increased staff turnover, more frequent absences from work and associated higher costs and poorer clinical outcomes.^{17 20 21} Due to the importance of JS on the performance of professionals and the healthcare system, JS has been assessed in several studies in different healthcare professions.^{19 22–24} Strategies are needed to improve JS and the attractiveness of job profiles in some healthcare professions.

Role clarity and role ambiguity have also found to be factors in JS.²⁵ An inverse relationship exists between these factors where high role clarity leads to low role ambiguity and vice versa.²⁶ Research with practising nurses found role clarity was a moderating effect on JS when combined with high social support from supervisors and peers.²⁷ A study of physiotherapists in Australia found

that increased JS was associated with practice ownership, salary satisfaction, established career pathways and access to mentoring and professional development.²⁸ JS closely related to quality of life factors outside of work among physiotherapists.²⁹ Research has stated that new physiotherapy graduates are underprepared for work and modifications to the delivery of peer support, mentoring and professional development are required.³⁰

JS in sports medicine

There is a body of literature in sports medicine regarding JS and burnout with most of this research occurring around in the USA around athletic trainers.³¹ Giacobbi found that depersonalisation, personal accomplishment and emotional exhaustion were factors in burnout.³² Pitney emphasised that professional responsibility requires a holistic approach consisting of a cycle of respect, rewards and rejuvenation.³³ Terranova and Henning identified multiple workplace issues as key factors in JS for athletic trainers.³⁴ These issues were also studied by Eason and colleagues in 2015.³⁵ Barriers to professional commitment include cultural, structural and personal factors.³⁶

Eason, Mazerolle and colleagues have proposed a multi-level model for JS among athletic trainers. This model identifies sociocultural, organisational and individual factors, which influence the work–life interface which in turn produces outcomes at the individual, organisational and sociocultural levels.^{37 38} Data suggest that female athletic trainers report greater levels of burnout than males.^{31 32 39}

These factors are consistent with the theoretical constructs presented around individual factors such as self-efficacy, goal setting and the impact of stress on resources and perceived professional role. This is especially important in sports medicine because of the wide diversity of professions that work in the field, which gets wider when examined through an international lens.⁸ The title of 'Athletic Trainer' has been under specific scrutiny, because many feel that it does not accurately describe the breadth of their professional training and leads to role ambiguity, stereotyping and limited opportunities within the greater healthcare system.⁴⁰ The title 'Athletic Therapist' has been recently adopted in Ireland and Canada.⁴¹

This study assesses JS among professionals in SSSM in an international context and also explores the impact of demographic factors. It is hoped that the results of this study can enhance JS, resilience and retention among health professionals in SSSM.

METHODS

Survey development and validation

The paper is part of a larger cross-sectional study which surveyed professionals in SSSM regarding sociodemographics as well as Interprofessional Collaboration (IPC) and Interprofessional Education (IPE) in an international context.⁸ The authors of this paper developed the IPC in SSSM (IPC-SSSM) survey, which had four parts:

(1) sociodemographic information; (2) attitudes and perceptions of IPC and IPE (University of West of England IP Questionnaire—UWE-IP)^{42–44}; (3) Warr-Cook-Wall (WCW) JS questionnaire⁴⁵ and (4) open-ended questions. The open-ended questions are not reported in this paper, but rather a previous paper published from this research.⁸ Prior to survey dissemination, the IPC-SSSM instrument was reviewed for face validity and cultural appropriateness through content analysis by 12 experts in SSSM in eight countries from the authors' personal network: USA, Canada, Ireland, Spain, United Kingdom, Switzerland, Germany and Sweden. Especially, we asked the experts, if questions and instruments were appropriate for the topic and clear to understand as well as if some essential questions, instruments or items on the topic were missing. As a result of this validation, some minor edits were conducted to support understandability, and a definition of IPC was given at the beginning of the survey.

A modified version of the WCW scale^{45, 46} with a total of 10 items was used to measure JS. Different versions of this scale in various populations were used in the literature, and this makes it difficult to cite clear psychometrics of the WCW scale. However, the 10-item WCW version is a wide-used one especially when investigating populations working in healthcare.^{47, 48} Studies showed sufficient reliability ($\alpha=0.74$ to 0.89) in a British population of the original work⁴⁵ as well as in pharmacists and general practitioners.⁴⁸ In general, it is concluded that the WCW JS scale provides a short, reliable, valid and easy to use measure of JS.⁴⁶ On this 10-item WCW scale used here, nine aspects of JS (physical working conditions, freedom of working methods, colleagues and fellow workers, recognition for work, amount of responsibility, rate of pay, opportunity to use abilities, hours of work and amount of variety in work) as well as the overall JS were assessed. The respective items were scored on a Likert scale with ratings from 1 (extremely dissatisfied) to 7 (extremely satisfied), with higher scores indicating higher satisfaction. The WCW scale has previously been used in various areas of healthcare and is considered an appropriate instrument in these areas.^{19, 22–24}

Public and patient involvement

Since this survey focused on SSSM professionals, the public and patients were not directly involved in this study. However, the investigators have a significant amount of experience in teaching and patient care which informed the development of the project. Additionally, the peer review process for the development of the survey instrument and its dissemination brought in public perspectives.

Recruitment of participants

The investigators decided to use English as the primary language in the survey which was disseminated internationally. Subjects were invited to take part in the IPC-SSSM through: (1) email to professional organisation members

where the investigators are affiliated (Swiss Society of Sports Science, German Society of Sport Science, German Sports Physicians Association, European College of Sport Science, American College of Sports Medicine, World Federation of Athletic Training and Therapy, Canadian Athletic Therapists Association and National Athletic Trainers' Association); (2) email directly to colleagues in researchers' professional networks and (3) through social media on Twitter, Facebook, Xing and LinkedIn electronically. Participation was voluntary and subjects could withdraw at any time. The IPC-SSSM and Recruitment Statement were administered electronically through the survey platform Qualtrics. No identifying data were recorded on survey participants. Multiple participation was controlled by recording participants' IP addresses. All subjects self-identified as SSSM professionals and stated they were 18 years or older. As we did not control the number of survey recipients, we can not give any response rate data. We received 420 data sets worldwide. As we focused on specific regions, from initial 359 respondents, 320 complete data sets from USA ($n=83$), Canada ($n=179$) and Europe ($n=58$) were available (89% completion rate). After 11 weeks of acquisition, data were downloaded from Qualtrics and edited with SPSS (IBM SPSS V.27.0). The UWE-IP questionnaire was included in the survey, but its analysis is part of another paper.⁸ We tried to reduce non-response error by the following strategies: short and easy to understand survey, introductory e-mail including facts and information about the survey, sufficient time frame for participation in the survey, mainly use of closed-ended questions like Likert scales and multiple-choice questions.

Sociodemographic variables

Sociodemographic characteristics data (eg, gender, age, hours of work per week, type of employment and years of professional experience in SSSM) were obtained during the online survey. Three questions on self-identified profession(s); number of professions regularly interacting in their daily working routine; professional role with multiple response possibilities were included. In the first question, presented respondents with a list of professions and they were asked to self-select all those that best describe their professional activity. The responses to these questions regarding specific professions are listed by region in [table 1](#). The second question was designed to discover with which and how many professions the participants regularly interact in their daily working routine. The third question asked their professional role with multiple response possibilities, where participants were asked to choose whether they work as a clinician, an educator, a researcher, an administrator, a technician or whether they would perform several professional roles simultaneously. Additionally, questions on personal experience with IPE in one's own education and whether personal experience with IP collaborative practice yielded a positive or a negative impact on patient/client outcomes.

Table 1 Participant self-reported professional roles

Profession	USA	Canada	Europe
Number of total responses*	112 (100)	335 (100)	105 (100)
Athletic trainer	74 (66)	22 (6.6)	20 (19.0)
Athletic therapist	3 (2.6)	176 (52.5)	12 (11.4)
Sports therapist	3 (2.6)	7 (2.1)	12 (11.4)
Physical therapist/ physiotherapist	12 (10.6)	4 (1.2)	20 (19.0)
Human performance/ strength and conditioning coach	5 (4.4)	20 (6.0)	6 (5.7)
Personal trainer	2 (1.8)	15 (4.5)	4 (3.8)
Sports scientist/exercise physiologist	2 (1.8)	6 (1.8)	12 (11.4)
Biomechanist/biokinetics	3 (2.6)	2 (0.6)	3 (2.9)
Kinesiologist/ kinesiotherapist	–	48 (14.3)	–
Other (eg, massage therapist, physician, physician assistant, osteopath, chiropractor, nurse, dietitian, occupational therapist, mental trainer)	9 (8.0)	35 (10.4)	16 (15.2)

*Multiple responses allowed. Numbers in brackets indicate per cent values of the number of total responses in each region.

Statistics

Statistical analysis was performed using SPSS (IBM SPSS V.27.0), and data are given as mean±SD. Only data from respondents with complete items in the IPC-SSSM relevant for this paper were included in further analyses. After descriptive analyses with focus on various sociodemographic characteristics, an analysis of variance (ANOVA) was conducted for each of the 10 WCW items to determine differences between the regions (USA, Canada, Europe). A Bonferroni adjustment was done due to multiple testing (10 ANOVAs), resulting in an adjusted significance threshold of $p=0.005$. To also examine the influence of personal experiences in IPE and IPC on overall JS, two further ANOVAs were carried out again with Bonferroni adjustment, leading to an adjusted significance threshold of $p=0.025$. Both factors, personal experience with IPE in own education (yes, in professional education; yes, in continuing education; no; yes, both in precertification and postcertification) and personal experience where IPC impacted patient/client outcomes (yes—positive impact; yes—negative impact; yes—mixed impact; no) had four levels. In case of a significant ANOVA, Tukey post hoc tests were conducted to indicate specific group differences. Normal distribution of the data was checked via the Kolmogorov-Smirnov test, and homogeneity of variances in the ANOVAs was tested via Levene's test. Furthermore, to determine the impact of the WCW items as well as of selected sociodemographic data (gender, age, scope of work) on the overall JS (dependent variable), a

multiple linear regression analysis (stepwise) was applied. Multicollinearity was controlled for via variance inflation factor (VIF) and tolerance. General guidelines recommend that the largest VIF should not exceed 10, and the tolerance should not fall below 0.2.⁴⁹ Due to small subgroups, no interactions in the ANOVAs and region-specific regression analyses were performed. As this study has explorative character, no sample size calculations or specific sampling strategies were selected.

RESULTS

The descriptive data on overall JS regarding various sociodemographic attributes are given in table 2 and the complete WCW JS data as well as separated for the specific region are shown in table 3. The overall JS in the total sample was 6.1 ± 1.0 , with Europe (6.3 ± 0.9) and USA (5.9 ± 1.2) showing the highest and lowest values, respectively. In all respondents, the rate of pay was scored lowest (4.8 ± 1.8 ; USA, 4.5 ± 1.9 ; Canada, 4.8 ± 1.8 ; Europe, 5.2 ± 1.3), and the freedom of working method was scored highest (6.3 ± 0.9). In the freedom of working method variable, the highest satisfaction was achieved in the European SSSM professionals (6.4 ± 1.0) compared with their colleagues from USA and Canada (both 6.3 ± 0.9). The ANOVAs detected no significant differences between the regions in any of the 10 WCW items. Although not significant due to the Bonferroni adjustment, the satisfaction on the rate of pay ($F(2,317) = 3.09$; $p=0.047$) as well as on the overall JS ($F(2,317) = 3.19$; $p=0.042$) tended to be higher in Europe compared with USA. Personal experience with IPE in own education had no significant influence on overall JS. However, a significant influence of personal experience where IPC impacted patient/client outcomes could be demonstrated ($F(3,316) = 5.05$; $p=0.002$). Here, group comparisons revealed a significant ($p=0.009$) higher overall JS in respondents reporting positive impacts (6.3 ± 0.9) in their personal experience with IPC compared with those who responded mixed impacts (5.9 ± 1.2).

A stepwise regression analysis detected that the opportunity to use abilities had the highest explanatory score of 41% (adjusted $R^2=0.41$) on the overall JS. Up to seven variables (opportunity to use abilities, recognition for work, physical working conditions, amount of variety in work, freedom of working methods, hours of work and colleagues and fellow workers) were included in the regression analysis explaining in total 61% (adjusted $R^2=0.61$) of overall JS variance, as shown in table 4. Only significant beta-coefficients are reported, and collinearity analysis gave VIF between 1.00 and 1.91 as well as a tolerance from 0.52 to 1.00. The amount of responsibility, the rate of pay and the sociodemographic variables (gender, age, scope of work) were not included in the regression models, and, thus, had no further explanatory contributions to the variance on overall JS.

DISCUSSION

The results of this survey align with the theoretical frameworks around self-efficacy, goal setting and COR. They

Table 2 Overall JS (Warr-Cook-Wall scale) by participants' sociodemographic attributes

	Total sample (numbers in each case (per cent values))	Overall JS (mean±SD)
Gender		
Male	143 (44.7)	6.2±0.9
Female	177 (55.3)	6.1±1.1
Age (years)		
20–29	112 (35.0)	6.0±1.0
30–39	109 (34.1)	6.1±1.1
≥40	99 (30.9)	6.3±0.9
Scope of Work		
<20 h/week	30 (9.4)	5.7±1.2
20–42 h/week	157 (49.1)	6.3±0.9
>42 h/week	130 (40.6)	6.0±1.0
Professional experience in sport science/sports medicine (years)		
<5	97 (30.3)	6.1±0.9
5–9	72 (22.5)	6.0±1.1
10–14	55 (17.2)	6.2±1.2
15–19	31 (9.7)	5.9±1.3
20–24	25 (7.8)	6.2±0.8
≥25	39 (12.2)	6.5±0.6
Type of employment		
Employed by organisation	192 (60)	6.1±1.0
Self-employed	93 (29.1)	6.2±1.1
Job-seeking	2 (0.6)	5.0±1.4
Student/professional training	18 (5.6)	5.9±1.0
Other	15 (4.7)	6.4±0.7
Number of self-identified professions		
1	178 (55.6)	6.1±1.0
2 or more	142 (44.4)	6.1±1.0
Number of professions regularly interacting in own work		
1–3	96 (30.0)	6.1±0.9
4–6	134 (41.9)	6.1±1.0
≥7	90 (28.1)	6.1±1.2
Personal experience with IP education in own education		
Yes, in professional education (precertification)	47 (14.7)	6.2±1.0
Yes, in continuing education (postcertification)	107 (33.4)	6.2±0.8
No	62 (19.4)	5.9±1.0

Continued

Table 2 Continued

	Total sample (numbers in each case (per cent values))	Overall JS (mean±SD)
Yes, both precertification and postcertification	104 (32.5)	6.1±1.2
Personal experience where IP collaboration impacted patient/client outcomes		
Yes—positive impact	175 (54.7)	6.3±0.9
Yes—negative impact	3 (0.9)	5.0±1.7
Yes—mixed impact	115 (35.9)	5.9±1.2
No	27 (8.4)	5.9±1.0

IP, Interprofessional.

also reinforce that of the previous literature in the health professions and sports medicine where factors such as professional autonomy, recognition/rewards, workplace conditions and compensation can impact overall JS. They also identify differences internationally between factors that influence JS as well as the impact of working experience with interprofessional collaborative practice.

On average, in this self-selected sample, high values were detected in the overall JS of the total sample, which indicates high JS among these professionals in the field of SSSM. In other studies using the same instrument to measure JS, the overall JS of healthcare staff was lower than the values found here, for example, for practice assistants (5.8), physicians (5.5), non-physician staff (5.9), young healthcare professionals (4.9) or mental healthcare professionals (5.3).^{19 22–24 50} Thus, it can be assumed that, on average, professional practice in the field of SSSM is associated with a high overall JS.

Regional comparisons

The results show that overall JS tended to be lowest in the USA and highest in Europe. A possible explanation could be that, on the one hand, more than half of the respondents work more than 42 hour/week in the USA compared with Canada and Europe.⁸ In addition, different healthcare financing systems, organisational structures of SSSM, as well as different roles, responsibilities and accreditation standards of professions in the SSSM systems may have an influence on overall JS in the examined regions.⁸ This may be a function of the relative role clarity for athletic trainers in the USA where some perceive that profession's scope of training may not fully understood by other health professionals.^{40 51}

Factor comparisons

The highest satisfaction is observed in the total sample as well as in all regions for the variable 'freedom to choose own working methods'. It seems that the survey participants can plan and implement their working

Table 3 Region specific variables of the Warr-Cook-Wall (WCW) JS questionnaire

	Total sample (n=320)	USA (n=83)	Canada (n=179)	Europe (n=58)	F-value	P-value*
Physical working condition	6.0±1.0	6.0±0.9	6.0±1.1	6.2±0.8	0.48	0.617
Freedom of working method	6.3±0.9	6.3±0.9	6.3±0.9	6.4±1.0	0.21	0.807
Colleagues and fellow workers	6.0±1.1	6.0±1.0	6.0±1.2	6.0±0.9	0.02	0.978
Recognition for work	5.5±1.5	5.4±1.5	5.4±1.5	5.8±1.2	1.85	0.159
Amount of responsibility	6.0±1.2	6.0±1.3	6.0±1.2	6.0±1.1	0.03	0.974
Rate of pay	4.8±1.8	4.5±1.9	4.8±1.8	5.2±1.3	3.09	0.047
Opportunity to use abilities	5.9±1.2	5.9±1.3	5.9±1.2	5.9±1.1	0.03	0.967
Hours of work	5.3±1.6	5.2±1.7	5.4±1.5	5.3±1.6	0.48	0.621
Amount of variety in job	6.1±1.2	6.0±1.1	6.0±1.2	6.3±0.9	1.55	0.214
Overall job satisfaction	6.1±1.0	5.9±1.2	6.2±1.0	6.3±0.9	3.19	0.042

Data are mean±SD. The possible score for each item ranges between 1 (extremely dissatisfied) and 7 (extremely satisfied). There were no significant differences between USA, Canada and Europe in the respective items.

*Adjusted level of significance: $p < 0.005$.

methods independently. This resonates with the fact that, especially in comparison to nursing or biomedical professions, the satisfaction of being able to choose one's own working methods is reported by therapeutic professions, such as physiotherapy.^{24 50} Independent working processes can be restricted by increasing automation and work compression, which is particularly the case in clinical hospital settings.²⁴ This does not seem to be the case with the subjects studied here, as many of the survey participants are also entrusted with roles in the therapeutic field and away from the clinical setting (athletic trainers, athletic therapists or sports therapists).⁸

This item, 'freedom to choose own working methods', aligns with Bandura's concepts regarding self-efficacy and Locke and Latham's goal setting theory.¹⁰⁻¹² The value placed on freedom to make decision-making and, in turn, role clarity aligns with recommendations in the literature regarding positive and negative influences on JS

for health professionals.^{16 17 19-22 24 27-31 33 34 36 37} The influence of workplace recognition and rewards align with the goal setting theory about the need for feedback and reflection. It also reinforces previous research regarding JS and feeling appreciated in their work.^{19 20 28 30-32 35 46}

Satisfaction with the rate of pay is lowest in all regions studied, which, as expected, is in line with results from other studies in health professions.^{17 19 22 50} COR theory influences work-life balance, these resources can be manifested not only by salary but also in work schedule, paid time off, staff support and the physical environment where one works. Work-life balance and appropriate compensation have been shown to be a major influence on JS in the literature.^{4 21-24 27 31 33 38 39}

The regression analysis shows that the response items: 'your opportunity to use abilities', 'the recognition you get for good work' and 'the physical working conditions' have the highest impact on overall JS. They also

Table 4 Relationships between items of job satisfaction and overall job satisfaction

How satisfied are you with...	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
Your opportunity to use abilities	0.64***	0.46***	0.42***	0.31***	0.26***	0.26***	0.27***
The recognition you get for good work		0.36***	0.29***	0.27***	0.25***	0.23***	0.20***
The physical working conditions			0.23***	0.20***	0.18***	0.15***	0.13***
The amount of variety in your job				0.21***	0.19***	0.20***	0.20***
The freedom to choose your own method of working					0.16***	0.15***	0.13**
The hours of work						0.13***	0.12***
Your colleagues and fellow workers							0.09*
R²	0.41	0.51	0.56	0.58	0.60	0.61	0.62
Adjusted R²	0.41	0.50	0.55	0.57	0.59	0.60	0.61

Results of the stepwise regression analysis including the whole sample (n=320) and adjusted beta-coefficients; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

align with the theoretical foundation of this paper and show a greater relationship to overall JS; therefore, they need to be considered in workplace to elicit high JS rates. Another interesting result is, in contrast to other studies, that colleagues and fellow workers do not have so much influence on overall JS in this study.

Interprofessional collaboration

The survey results around the importance of effective collaboration with colleagues from peer professions on JS in SSSM are reiterated in open-ended responses by the participants. The IPEC domains of Interprofessional Communication and Value and Ethics for IPC are the factors mentioned most often regarding JS.⁵²

Limitations

There are several limitations in this survey. The study benefited from the use of a well-known and multiple used scale evaluating JS. However, the number of respondents was too small to compute region-specific regression analyses, and more surveys are needed to focus on JS determinants in the respective regions. The number of responses to the survey may have been limited due to availability of contact information of SSSM professionals in each of the different countries, we also may not have received the most balanced mix of respondents by profession and global region. Additionally, the availability of the survey in only English may have been a barrier to the response rate internationally.

We also must consider that the majority of the respondents was interested in the topic of the survey (selection bias), and general conclusions on the results regarding staff working in SSSM should be drawn with caution. Another source of bias in this project may be that this was administered prior to the 2020 COVID-19 global pandemic which drastically impacted the work-life of all health professionals.^{51 53 54}

CONCLUSION

JS and professional burnout among health professionals have been shown to impact quality and safety; patient satisfaction; turnover and reduction of work effort; health-care costs and other personal consequences. In general, factors that impact JS for health professionals include professional autonomy, workplace conditions, rewards/recognition, compensation and work-life balance. However, less is known about JS of professions working in SSSM especially from an international perspective. This paper addresses JS among SSSM professionals in an international context. In this study, we found that JS has an important influence on the work and services provided by SSSM professionals, and experience with IPC can have a positive effect on JS which, in turn, can improve quality of life for clients, patients and professionals.

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Patient consent for publication Not applicable.

Ethics approval Ethical approval was obtained by the Institutional Review Board at Saint Louis University (SLU IRB #30950) and a clarification of responsibility was conducted by the Cantonal Ethics Committee of the Canton of Zurich (Basec-Nr. Req-2020-00185), stating that an authorisation from the local Ethics Committee is not required. Participants gave informed consent to participate in the study before taking part.

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Data availability statement Data are available upon reasonable request. Deidentified/aggregate participant data are available upon reasonable request.

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