



apunts

MEDICINA DE L'ESPORT

www.apunts.org



ORIGINAL ARTICLE

## Motivation of clinical teachers at Schools of Sports Medicine: Taking part is what really counts?

Francisco Javier Ordoñez<sup>a</sup>, José Ramón Alvero-Cruz<sup>b</sup>, Ignacio Rosety<sup>c</sup>, Gabriel Fornieles<sup>a</sup>, Antonio Jesús Díaz<sup>d</sup>, Miguel Ángel Rosety<sup>a</sup>, Alejandra Camacho<sup>e</sup>, Jerónimo García-Domingo<sup>b</sup>, Carmen Vaz<sup>f</sup>, Manuel Rosety-Rodríguez<sup>a,\*</sup>

<sup>a</sup> School of Sports Medicine, UCA, Cádiz, Spain

<sup>b</sup> School of Sports Medicine, UMA, Málaga, Spain

<sup>c</sup> Human Anatomy Department, School of Medicine, UCA, Cádiz, Spain

<sup>d</sup> Medicine Department, School of Medicine, UCA, Cádiz, Spain

<sup>e</sup> Division of Internal Medicine, Hospital of Juan Ramón Jiménez, Huelva, Spain

<sup>f</sup> Andalusian Center of Sports Medicine, Sevilla, Spain

Received 21 June 2013; accepted 22 July 2013

Available online 26 September 2013

### KEYWORDS

Sports Medicine;  
Academic faculty;  
Motivation;  
Q-methodology

### Abstract

**Introduction:** This was the first study to focus on what factors may motivate clinical teachers in Sports Medicine Schools. These findings would be of particular interest at a time of decreasing resources for Schools of Sports Medicine to reward teaching.

**Material and methods:** A total of 32 clinical teachers (13 females [40%]; 19 males [60%]) volunteered for this observational, cross-sectional study. Conventional Q-methodology so that participants rank-ordered 69 numbered statements according to the extent to which these reflected their motivation to teach at School of Sports Medicine. The sorted statements were factor-analyzed to provide clusters of similar experiences.

**Results:** In accordance with recommended practice, two factors emerged: factor 1 "I teach for helping others" included 23 (72%) participant's sorts (13 males; 10 females) whereas factor 2 "I teach for improving myself" included just 9 (28%) participants (6 males; 3 females). The statement that received the highest average score for factor 1 was "I want to help my students become good doctors". Regarding factor 2, the statement that received the highest average score was "I teach because of the intellectual stimulation".

**Conclusion:** A ranked-pool of factors that motivate clinicians to teach in Schools of Sports Medicine has been proposed. By identifying them, these factors can be reinforced by motivational strategies at Schools of Sports Medicine in order to enhance teacher cooperation and compliance, thereby reducing drop-out rates.

© 2013 Consell Català de l'Esport. Generalitat de Catalunya. Published by Elsevier España, S.L. All rights reserved.

\* Corresponding author.

E-mail address: [manuel.rosetyrodriguez@uca.es](mailto:manuel.rosetyrodriguez@uca.es) (M. Rosety-Rodríguez).

**PALABRAS CLAVE**

Medicina Deportiva;  
 Facultad académica;  
 Motivación;  
 Metodología Q

## Motivación de los docentes clínicos en las Escuelas de Medicina Deportiva: ¿participar es lo que en realidad importa?

**Resumen**

**Introducción:** Este estudio fue el primero en abordar los factores que pueden motivar a los docentes clínicos en las Escuelas de Medicina Deportiva. Estos hallazgos podrían ser de interés particular en un momento en el que van disminuyendo los recursos para recompensar la enseñanza en las escuelas deportivas.

**Material y métodos:** Se incluyó a un total de 32 docentes clínicos voluntarios (13 mujeres [40%], 19 varones [60%]) en este estudio observacional y transversal. Se utilizó la metodología Q condicional para que los participantes clasificaran en orden 69 aseveraciones, en función del modo en que éstas reflejaran su motivación para impartir la docencia en una Escuela de Medicina Deportiva. Las aseveraciones clasificadas fueron analizadas utilizando factores, para obtener así grupos de experiencias similares.

**Resultados:** De acuerdo a la práctica recomendada, surgieron dos factores: el factor 1 "Yo enseño para ayudar a los demás" incluyó a 23 (72%) tipos de participantes (13 varones y 10 mujeres), mientras que el factor 2 "Yo enseño para mejorarme a mí mismo" incluyó únicamente a 9 (28%) participantes (6 varones y 3 mujeres). La aseveración que recibió una mayor puntuación media para el factor 1 fue: "Quiero ayudar a mis estudiantes a convertirse en buenos doctores". En cuanto al factor 2, la afirmación que recibió la mayor puntuación media fue: "Yo enseño movido por la estimulación intelectual".

**Conclusión:** Se ha propuesto un pool de factores clasificados que motivan a los facultativos a la enseñanza en las Escuelas de Medicina Deportiva. Al identificarlos, estos factores pueden reforzarse mediante estrategias de motivación en las Escuelas de Medicina Deportiva, a fin de realzar la cooperación y el cumplimiento de los profesores, reduciendo así los porcentajes de abandono.

© 2013 Consell Català de l'Esport. Generalitat de Catalunya. Publicado por Elsevier España, S.L. Todos los derechos reservados.

**Introduction**

In recent years, coinciding with the run of sporting success, sports medicine has received increasing attention. Not surprisingly, the emergence of the discipline in the Western World was closely linked to the Olympic movement and more recently the proliferation of professional sport and their needs for high quality medical coverage (9).

Accordingly, academic faculty is also encouraged to improve education program and learning methods in Sports Medicine. Mainly if we take into consideration that Sports Medicine is accepted as a full university based medical specialty.<sup>1</sup>

It is widely accepted that enthusiasm for teaching should be a basic qualification for physicians who want to participate in medical education.<sup>2</sup> In fact, motivation was one of the major characteristics of effective clinical teachers identified by students.<sup>3</sup> However, teaching is very time-consuming and poorly remunerated compared to patient care.<sup>4</sup>

In order to better recruit and retain clinical teachers, medical schools must be cognizant of the variety of factors that may motivate clinicians to teach students.<sup>5</sup>

This topic has received no attention in previous studies focused on Sports Medicine training.<sup>6,7</sup> In fact, to the best of our knowledge, this was the first study to focus on what factors may motivate clinical teachers in Sports Medicine Schools. These findings would be of particular interest at a

time of decreasing resources for Schools of Sports Medicine to reward teaching.

**Material and method**

A total of 32 clinical teachers (13 females [40%]; 19 males [60%]) who perform their teaching activities at Schools of Sports Medicine at Universities of Cadiz and Malaga (Spain) volunteered for this observational, cross-sectional study. Participants (43.7 ± 5.1 years-old) had, at least, one medical specialty (Sports Medicine [*n* = 21]; Cardiology [*n* = 3]; Orthopedics [*n* = 3]; Radiology [*n* = 2]; Endocrinology [*n* = 1]; Pediatrics [*n* = 1]; Internal medicine [*n* = 1]) and were currently performing at least one of the following professional profiles (teaching, research and/or medical care) in their daily professional activity. In a more detailed way, it should be pointed out that up to 10 participants (31.2%) also perform medical undergraduate teaching activities at Schools of Medicine in the same University.

Respondents were chosen based on their relevance to the goals of the study (clinical teachers in Sports Medicine) as opposed to being selected for their representativeness of a larger population. This collection of individuals is referred to as a person-set (P-set) and usually involves no more than fifty participants.<sup>8</sup>

To investigate motivating factors among clinical teachers in Schools of Sports Medicine we used the Q-methodology that has been applied in both clinical and non-clinical

settings<sup>9-11</sup> given that it is not difficult to implement either by participants and researchers.<sup>12</sup>

This method uncovers and identifies the range of opinions regarding a specific topic under investigation given that it assumes that opinions are subjective and can be shared, measured, and compared.<sup>13</sup>

In a more detailed way, participants were asked to consider the question 'Why do you teach?'. They were presented with a set of 69 numbered statements about motivation of clinical teachers (Table 1) previously reported in the literature.<sup>5</sup> These statements were listed on individual cards and participants were asked to rank-order them along an opinion continuum grid from most agreement [received a ranking of +5] to most disagreement [received a ranking of -5]. The middle [0] represented a neutral pile. It should be pointed out the grid complies with a normal distribution format.

Apart from instructing the participant on the study objectives and how to complete the questionnaire, there was no other discussion between each participant and researchers. It should be also pointed out that a limited time frame for the data collection was required to limit staff discussion of the study before providing their opinion.<sup>5</sup>

Data were entered into the Q-methodology freeware program available at <http://schmolck.userweb.mwn.de/qmethod/webq/>. The variables for analysis were the statement rankings reported by participants. The statistical method of factor analysis was used to generate clusters of similar perspectives among participants. Only factors with 6 or more people mapping to them were used. A computer algorithm (varimax rotation) was used to enhance interpretability. Lastly, the demographic data were analyzed using descriptive statistics.

As regards bioethics, all participants signed a consent form prior to their involvement in the present study. Further, it should be emphasized the authors have undertaken this study in the course of their employment, with no funding from any other source and have no conflict of interest to declare. The present project was approved by an Institutional Ethics Committee.

## Results

In accordance with recommended practice, two factors emerged: factor 1 "I teach for helping others" included 23 (72%) participant's sorts (13 males; 10 females) whereas factor 2 "I teach for improving myself" included just 9 (28%) participants (6 males; 3 females).

Statements in the most agreement zone for Factor 1 are listed in Table 2. In this respect, the statement that received the highest average score was "I want to help my students become good doctors", the second "To show them the correct way of clinical practice in my specialty" and the third "I like the challenge of teaching students as effectively as possible". Conversely they strongly disagree "there was no strong involvement of teaching staff in the design of the course" or "they did not feel any sense of duty to teach" or "I receive inadequate feedback from students on my performance". These statements are listed in Table 3.

**Table 1** Motivation statements included in the Q-sort reported by Dahlstrom et al.

1. I enjoy spending time with students in small groups
2. I don't enjoy lecturing to large groups of students
3. I like the challenge of teaching students as effectively as possible
4. I am bored by teaching
5. I don't feel any sense of duty to teach
6. I teach because it sets a good example to my students to become teachers
7. I teach because I have been inspired to teach by my mentors
8. I teach because I am good at it relative to other academic skills
9. I teach because it is a requirement of my employment contract
10. I teach because I believe it is an appropriate service to my profession
11. Teaching doesn't do anything to enhance my clinical knowledge and/or skills
12. I teach because I enjoy the sense of performing in front of an audience
13. I don't get any financial reward from teaching
14. I teach because I want to help my students become good doctors
15. I don't teach because I am not the one most familiar with a given topic
16. I don't teach because my institution provides poor facilities for teaching
17. I don't teach because I have insufficient time available to teach
18. I teach because there are opportunities for 'virtual' and/or 'online' and/or remote teaching
19. I don't teach as my specialty is too 'cutting edge' to be relevant to students
20. I don't teach because there are no clearly stated learning goals in the course
21. I don't teach because there is no strong involvement of teaching staff in the design of the course
22. I don't teach because there is no recognition for what I do
23. Opportunities for academic promotion have nothing to do with my motivation to teach
24. I teach because the course allows a deep approach to learning by the students
25. I don't teach as students make me feel inadequate
26. I don't teach because opportunities are not available for me to improve my teaching skills
27. I don't teach because I receive inadequate feedback from students on my performance
28. I teach because I believe I communicate well with people
29. I don't teach because I believe the institution devalues teaching and learning
30. I don't teach because the setting in which I am expected to teach is inappropriate
31. I teach because I feel part of the continuum of learning of my students' experience
32. I teach because I feel responsible for the student learning outcomes of my efforts

Table 1 (Continued)

33. I teach because it gives me a sense of power
34. I teach to improve my communication skills
35. I don't teach as I am not a useful role model
36. My clinical load deters me from teaching
37. My clinical load deters me from putting any time into preparation for teaching
38. I don't teach because I am not concerned about the success of the clinical and/or medical school
39. The teaching I had as a medical student has inspired me to want to teach
40. I teach as a means of reviewing a topic area unfamiliar to me
41. I teach to be challenged in my established views
42. I don't teach because I find it unenjoyable
43. I teach because of the prestige it gives me with my peers
44. I teach because my patients expect it of me
45. I don't teach because interacting with students is boring
46. I teach because of the intellectual stimulation
47. I teach because my colleagues expect me to do so
48. I teach because I was asked to do so by the Clinical and/or Medical School
49. I don't teach because it fails to keep me up to date
50. I teach students because interaction with them makes me think more critically
51. I teach students to ensure they receive a balanced clinical education.
52. I teach because I can enhance my knowledge and understanding of junior doctors
53. I teach because the interaction with students provides an opportunity for my opinions to be heard
54. I teach to ensure the students appreciate my specialty in a favorable way
55. I teach because it allows me to interact with students and show an appreciation of their position
56. I don't teach just because it is expected of me
57. I teach students to show them the correct way of clinical practice in my specialty
58. I teach to ensure any false understanding of my specialty is not perpetuated
59. I teach because I can demonstrate a healthy lifestyle to my students
60. I don't teach just because of the academic position I hold
61. I teach because I can challenge students to be more critical in their thinking.
62. I don't teach because one can't influence the behavior of students for the better
63. I don't teach because teachers don't contribute to the formation of future doctors
64. I don't teach as I don't approve of new teaching techniques
65. I don't teach as students today lack respect
66. I don't teach as it is a waste of time
67. I teach to engage with younger people
68. I teach as involvement with my status in my profession
69. I don't teach as I feel my knowledge is out of date

Similarly, statements in the most agreement zone for factor 2 are listed in Table 2. In a more detailed way, the statement that received the highest average score was "intellectual stimulation", the second "be challenged in my established views", and the third "I teach to improve my communication skills". On the other hand, they strongly disagree "teaching was a waste of time", "it doesn't do anything to enhance my clinical knowledge and/or skills" and "that their knowledge was out of date". These statements are listed in Table 3.

## Discussion

Previous studies have found that the success of academic medical centers depends on creating jobs that maximize the potential of its faculty.<sup>14</sup> In addition, Gabler-Uhing<sup>15</sup> reported that Q-methodology has increasingly been used to identify the complex attributes and behaviors that impact learning within medicine. Accordingly, the present study used Q-methodology to successfully identify factors that represent major motivations of clinicians to teach at Schools of Sports Medicine.

In a more detailed way, our results suggested clinical teachers who participated in this study were highly motivated regarding teaching activity. The current results were better than those previously published in teaching hospital settings.<sup>5,16</sup> This finding may be explained, at least in part, given that unlike other medical specialties with official recognition, just a few Schools of Medicine have included Sports Medicine as part of their undergraduate curriculum. Therefore, the Schools of Sports Medicine are the only venue for junior and senior clinicians interested on teaching in this specialty so that it could be expected they exhibit higher levels of motivation.

In a more detailed way, participants who mapped to factor 1, were highly motivated by the ambition to help others that was consistent with previous studies focused on physicians' motivation.<sup>17,18</sup> Furthermore, previous studies reported that participation in decision making that may affect physicians' teaching activity was an important correlate of satisfaction as was previously reported among physicians in academic medical centers.<sup>19</sup> Similarly, participants who mapped to factor 1 reported a major disagreement with the fact that "there is no strong involvement of teaching staff in the design of the course". In addition, the dissatisfaction of faculty with the organizational design, structure and processes was considered as major source of occupational stress that may even affect their state of health.<sup>20</sup> Therefore, providing greater opportunities not only for teaching but also for designing the course may be strong motivators for most faculty at Sports Medicine.

Results reported by participants who mapped to Factor 2, were consistent with the fact that teaching may lead to activities that furthered professional growth. In a previous study, Abramovitch et al.,<sup>21</sup> found teaching was associated with an increased reading of the medical literature in order to keep up with recent developments in medicine. Conversely, many others have reported an increase in their personal time spent at work to compensate for the time spent with medical students as well



**Table 2** Statements in the most agreement zones for Factors 1 "I teach for helping others" and 2 "I teach for improving myself".

Factor 1	Factor 2
I teach because I want to help my students become good doctors	I teach because of the intellectual stimulation
I teach students to show them the correct way of clinical practice in my specialty	I teach to be challenged in my established views
I like the challenge of teaching students as effectively as possible	I teach to improve my communication skills
I teach because I have been inspired to teach by my mentors	I teach because I can demonstrate a healthy lifestyle to my students
I teach because I can challenge students to be more critical in their thinking.	I teach because the course allows a deep approach to learning by the students

**Table 3** Statements in the most disagreement zones for Factors 1 "I teach for helping others" and 2 "I teach for improving myself".

Factor #1	Factor #2
I don't teach because there is no strong involvement of teaching staff in the design of the course	I don't teach as it is a waste of time
I don't feel any sense of duty to teach	Teaching doesn't do anything to enhance my clinical knowledge and/or skills
I don't teach because I receive inadequate feedback from students on my performance	I don't teach as I feel my knowledge is out of date
I don't teach because I am not concerned about the success of the clinical and/or medical school	I don't teach as I am not a useful role model
I don't teach because I find it unenjoyable	Opportunities for academic promotion have nothing to do with my motivation to teach

as a decrease in their clinical productivity not only in undergraduate<sup>22</sup> but also in postgraduate.<sup>23</sup> Furthermore, for this group, results suggested that the organization of formal, generally short, training programs focused on the improvement of pedagogical skills would be of great interest. Progress toward academic promotion of clinicians should be also bear in mind by Chairs of Schools. Mainly if we also take into account that academic advancement of clinician is slower than that of research faculty at medical schools.<sup>24,25</sup>

Using the Q-method, it is possible to identify different, unique viewpoints concerning motivation among the study population, as well as commonly shared views. This level of detail, not obtainable using more traditional statistical techniques, can aid in the design of more effective strategies aimed at fulfilling the needs of clinical teachers to increase their satisfaction and reach their fullest potential. Furthermore, these findings can be used to create criteria for the hiring and promotion of clinical faculty.<sup>3</sup> This is of particular interest given that retention of academic faculty should be considered a pressing issue for Schools of Sports Medicine at a time of decreasing resources for these Schools. In this respect, income enhancement was reported as a major reason for considering opportunities elsewhere by clinical teachers that had already left an academic medical center.<sup>26</sup>

One of the main strengths of our study could be the number of clinical teachers who participated ( $n=32$ ) that was consistent with the recommendations of Q-methodology.<sup>27</sup> Furthermore, the methodology has shown itself to be a

valuable aid to investigating subjective experiences in a group where communication may be difficult given they had different medial specialties and professional profiles on their daily activities.

The present study had some limitations such as it relies on the subjective assessments of respondents that were not chosen on random sampling procedures. Furthermore, the participants in the present study had all volunteered to become clinical teacher in Schools of Sports Medicine. Therefore, it is possible that the opinions of physicians required to take fellows in training may not be as positive. Lastly, a social desirability bias should be considered given that participants were aware that most researchers were colleagues and would be aware of their results, perhaps skewing answers to those apparently more favorably as was previously reported.<sup>5</sup>

In conclusion, a ranked-pool of factors that motivate clinicians to teach in Schools of Sports Schools has been proposed. By identifying them, these factors can be reinforced by motivational strategies to enhance teacher cooperation and compliance, thereby potentially reducing drop-out rates. Accordingly, future studies are still required to develop and investigate the effectiveness of motivational strategies.

### Conflict of interest

The authors declare that they have no conflict of interest to declare.

## References

- Rosety-Rodriguez M, Alvero-Cruz JR, Camacho A, Vaz C, Fornieles G, Diaz AJ, et al. Identificación de competencias en la especialidad de Medicina del Deporte para su desarrollo en laboratorios de habilidades. *Educ Med*. 2013 (in press).
- MacDougall J, Drummond MJ. The development of medical teachers: an enquiry into the learning histories of 10 experienced medical teachers. *Med Educ*. 2005;39:1213–20.
- Jahangiri L, McAndrew M, Muzaffar A, Mucciolo TW. Characteristics of effective clinical teachers identified by dental students: a qualitative study. *Eur J Dent Educ*. 2013;17:10–8.
- Grayson MS, Klein M, Lugo J, Visintainer P. Benefits and costs to community-based physicians teaching primary care to medical students. *J Gen Intern Med*. 1998;13:485–8.
- Dahlstrom J, Dorai-Raj A, McGill D, Owen C, Tymms K, Watson DA. What motivates senior clinicians to teach medical students? *BMC Med Educ*. 2005;5:27.
- Kordi R, Dennick RG, Scammell BE. Developing learning outcomes for an ideal MSc course in sports and exercise medicine. *Br J Sports Med*. 2005;39:20–3.
- McCroly P. How should we teach sports medicine? *Br J Sports Med*. 2006;40:377.
- McKeown BF, Thomas BD. *Q-methodology*. Newbury Park, CA: Sage Publications; 1988.
- Amin Z. *Q methodology – a journey into the subjectivity of human mind*. Singapore Med J. 2000;41:410–4.
- Killam LA, Montgomery P, Raymond JM, Mossey S, Timmermans KE, Binette J. Unsafe clinical practices as perceived by final year baccalaureate nursing students: Q methodology. *BMC Nurs*. 2012;11:26.
- Simons J. An introduction to Q methodology. *Nurse Res*. 2013;20:28–32.
- McKenzie J, Braswell B, Jelsma J, Naidoo N. A case for the use of Q-methodology in disability research: lessons learned from a training workshop. *Disabil Rehabil*. 2011;33:2134–41.
- Stainton RR. Q-methodology. In: Smith JA, Harre R, Van Langenhove L, editors. *Rethinking methods in psychology*. Thousand Oaks, CA: Sage Publications; 1995. p. 178–92.
- Levine RB, Harrison RA, Mechaber HF, Phillips C, Gallagher TH. Professional characteristics and job satisfaction among SGIM members: a comparison of part-time and full-time physician members. *J Gen Intern Med*. 2008;23:1218–21.
- Gaebler-Uhing C. Q-methodology: a systematic approach to assessing learners in palliative care education. *J Palliat Med*. 2003;6:438–42.
- Kelly AM, Cronin P, Dunnick NR. Junior faculty satisfaction in a large academic radiology department. *Acad Radiol*. 2007;14:445–54.
17. Mand P, Biertz F, Hummers-Pradier E, Kruschinski C. A survey to assess family physicians' motivation to teach undergraduates in their practices. *PLoS ONE*. 2012;7:e45846.
18. Wright SM, Beasley BW. Motivating factors for academic physicians within departments of medicine. *Mayo Clin Proc*. 2004;79:1145–50.
19. Janus K, Amelung VE, Baker LC, Gaitanides M, Schwartz FW, Rundall TG. Job satisfaction and motivation among physicians in academic medical centers: insights from a cross-national study. *J Health Polit Policy Law*. 2008;33:1133–67.
20. Michailidis M, Asimenos A. Occupational stress as it relates to higher education, individuals and organizations. *Work*. 2002;19:137–47.
21. Abramovitch A, Newman W, Padaliya B, Gill C, Charles PD. The cost of medical education in an ambulatory neurology clinic. *J Natl Med Assoc*. 2005;97:1288–90.
22. Vinson DC, Paden C, Devera-Sales A. Impact of medical student teaching on family physicians' use of time. *J Fam Pract*. 1996;42:243–9.
23. Nousiainen MT, Latter DA, Backstein D, Webster F, Harris KA. Surgical fellowship training in Canada: what is its current status and is improvement required. *Can J Surg*. 2012;55:58–65.
24. Buckley LM, Sanders K, Shih M, Hampton CL. Attitudes of clinical faculty about career progress, career success and recognition, and commitment to academic medicine. Results of a survey. *Arch Intern Med*. 2000;160:2625–9.
25. Thomas PA, Diener-West M, Canto MI, Martin DR, Post WS, Streiff MB. Results of an academic promotion and career path survey of faculty at the Johns Hopkins University School of Medicine. *Acad Med*. 2004;79:258–64.
26. Demmy TL, Kivlahan C, Stone TT, Teague L, Sapienza P. Physicians' perceptions of institutional and leadership factors influencing their job satisfaction at one academic medical center. *Acad Med*. 2002;77:1235–40.
27. Spurgeon L, Humphreys G, James G, Sackley C. A Q-methodology study of patients' subjective experiences of TIA. *Stroke Res Treat*. 2012;2012:486261.