

ORIGINAL ARTICLE

Assessment of Dental Students' Entrepreneurial Self-Efficacy to aid Practice

Zakia Saleem¹, Ahsan Sethi², Mohammad Hassan³, Mehreen Wajahat³

ABSTRACT

Background: A dental graduate faces difficulty in successful establishment of his private setup after graduation. Dental students who desire to have their own practice as business may require knowledge that must be different from the students who plan their career as an associate dentist or intern in corporate practices. Thus, it makes this important to understand Entrepreneurial Self-efficacy (ESE) of dental students to introduce entrepreneurial content in undergraduate education. The efficacy of students to inaugurate their practice is known as Entrepreneurial Self-Efficacy (ESE). This study is aimed at assessing ESE in order to implement practice management education.

Aim: To assess dental students' entrepreneurial self efficacy to aid practice in two dental colleges.

Methods: A quantitative study was conducted by selecting two dental colleges i.e. University College of Dentistry, University of Lahore (private sector) and De'montomorency College of Dentistry, Lahore (public sector). A Pre-validated Entrepreneurial Self-Efficacy (ESE) scale was used that contained 17 items which divided into 5 domains i.e. searching, planning, marshalling, implementing people and implementing financials. Searching is to identify an opportunity before it is upfolded by other contenders. Planning defines evaluation of grabbed opportunity and formation of a framework for implementation of ideas. Marshalling indicates the arrangement of people and finances for execution of plan. Implementing people and financials is to establish human and financial resources respectively. Descriptive statistics were performed and results were analyzed by Independent T test using SPSS version 23.

Results: From the participants of dental colleges, 216 students were involved in this study. Mean score of Entrepreneurial Self-Efficacy was (5.1) which indicates slight agreement of students with the items of ESE scale according to 7 Point Likert scale. Difference observed in means between both institutes and gender but no statistically significant difference found.

Conclusion: Male and female students of both public and private sector institute hold equal level of ESE. There is a need to introduce entrepreneurial education at the undergraduate level to strengthen the practice management skills of dental graduates.

Keywords: Entrepreneurial self-efficacy, Entrepreneurship, Practice Management

Abbreviation: Entrepreneurial self-efficacy (ESE)

Introduction: A qualified dental graduate is trained to make the diagnosis of a problem, devise a treatment plan and to cure the patient. A dentist before graduation devotes four years in a

dental school which comprises two-year study of basic sciences and two-year study of clinical sciences. During these four years, a student hardly finds time to do extra courses. Majority of dental graduates' dream of successful dental practice as they are equipped with the knowledge to treat and cure a patient. Along with knowledge, the need for management skills is essential to launch a dental clinic and to turn it into a successful enterprise. To learn this skill most of the graduates join established dental practices as an intern or associate dentist. Dental graduates in Pakistan also feel the need to learn practice management (Nazir et al., 2018). In the current dental curriculum, there is no effective content included which can equip our graduates with entrepreneurial skills. There are various aspects of management required to be learned by a graduating dentist i.e. dental practice as a business, management, and supervision of human resources, legal concerns, and Insurance of dental setup.

1.Department of Prosthodontics, University College of Dentistry, University of Lahore, PAK

2.Department of Medical Education, Khyber Medical University, Peshawar, PAK

3.Department of Science of Dental Material, University College of Dentistry, University of Lahore, PAK

Institutes included in study:

University College of Dentistry, University of Lahore
De'montomorency College of Dentistry, Lahore

Correspondence: Zakia Saleem
zakia.saleem@hotmail.com

Funding Source: NIL; Conflict of interest: NIL

Received: June 15th, 2019; Accepted: July 14th, 2019

Along with this, it is also required to have supervisory skills to direct dental staff which includes dental hygienists, dental assistants, dental nurses, dental lab technicians, and reception staff. Administrative skills are also required to be learned that includes record keeping, financial management, maintenance of inventory and advertisement of the clinic. (Barber, Wiesen, Arnold, Taichman, & Taichman, 2011). Blooming of corporate dental practices in Pakistan sets a competition for a graduating dentist to establish a good practice. It is a need of the hour to train graduates for the competing professional life ahead and to learn management and entrepreneurial skills. Launching a successful dental enterprise requires management and business skills. (Trimi & Berbegal-Mirabent, 2012)

Hence it is required to assess the entrepreneurial self-efficacy of a dental student to introduce the content of practice management at the undergraduate level. Entrepreneurial self-efficacy is defined as a person's belief in his capability to plan, operate and manage a successful business. (Zhao, Hills, & Seibert, 2005). Self-efficacy has been an interesting concern since 1978 when Bandura related high efficacy with successful entrepreneurship (Bandura, 1978). Literature establishes that students with low entrepreneurial self-efficacy (ESE) have less tendency for entrepreneurship as the new venture seems risky to them. Behind every successful business, there is an entrepreneur and his competency, capability, orientation, and self-efficacy to perform effectively (Oyeku et al., 2014). As entrepreneurial education seems important to be taught, is there any need to assess the entrepreneurial self-efficacy of undergraduate dental students in order to introduce content for practice management?

Aim of this study was to assess student's perception of their entrepreneurial self-efficacy because there is a need to introduce entrepreneurship in dental education. This study may facilitate dental educators to get an insight into student's ESE to plan the course content for entrepreneurship education and management of practice at the undergraduate level.

Methods: A cross-sectional study was conducted after approval from institutional ethical review board. Two institutions of Lahore, one from the private sector i.e. University College of

Dentistry, the University of Lahore and one from the public sector i.e. De'montomorency College of Dentistry. The populations targeted were Final year BDS students and House officers who were recruited through convenience sampling. Students of 1st, 2nd and 3rd year BDS were excluded from this study because they lack the basic clinical knowledge to diagnose and manage a patient whereas House officers and Final year students have a complete set of knowledge and competence to treat patients and most of the house officers establish their dental practices immediately after the completion of their house job.

A pre-validated ESE Scale (Mcgee, Peterson, Mueller, & Sequeira, 2009) intentions, and behavior include entrepreneurial self-efficacy (ESE is used which comprises of 17 items. These items were representative of five domains of ESE which are Searching, Planning, Marshalling, Implementing-people, and implementing-financial (Mcgee et al., 2009) intentions, and behavior include entrepreneurial self-efficacy (ESE. The domain of searching with reliability (Cronbach's $\alpha=0.84$) comprises of Q1-3, domain of planning with reliability (Cronbach's $\alpha=0.84$) comprises of Q4-7, domain of marshalling with reliability (Cronbach's $\alpha=0.80$) comprises of Q8-10, domain of Implementing people with reliability (Cronbach's $\alpha=0.91$) comprises of Q11-Q16 and the domain of Implementing financials with reliability (Cronbach's $\alpha=0.84$) comprises of Q17. Each item was scored on 7 points Likert scale from 1=strongly disagree to 7=strongly agree. Mean values were compared and results were statistically analyzed by Independent sample t test using SPSS version 23

Results: A total of 216 students participated in this study from private and public institutes. Descriptive statistics mean for each item was carried out. The combined mean result of both institutes is shown in figure 1. The mean results of 5 competencies of ESE are shown in Table 1. The highest mean recorded in combined results was of implementing financials and the lowest mean recorded was of Brainstorming new ideas. Figure.2 shows the comparative means of institutes. Comparative means against each competency of ESE shown in Table 2. Figure.3 shows the comparative means among males and females. Comparative means against each competency of ESE is shown in table 3.

Figure 1

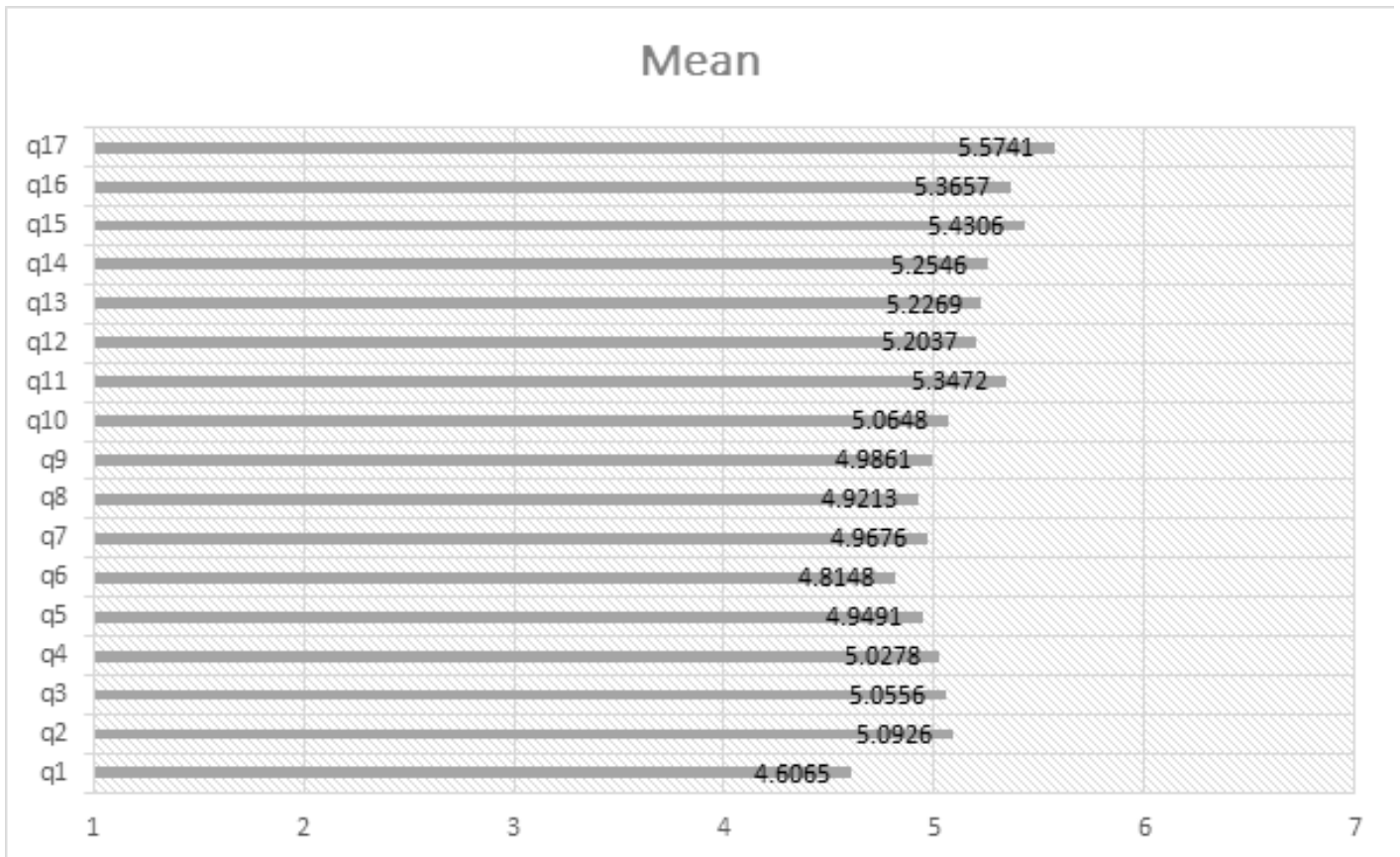


Table 1

	Searching	Planning	Marshaling	Implementing-people	Implementing-financials	Total Mean
Mean	4.91	4.93	4.99	5.30	5.57	5.1

Figure 2

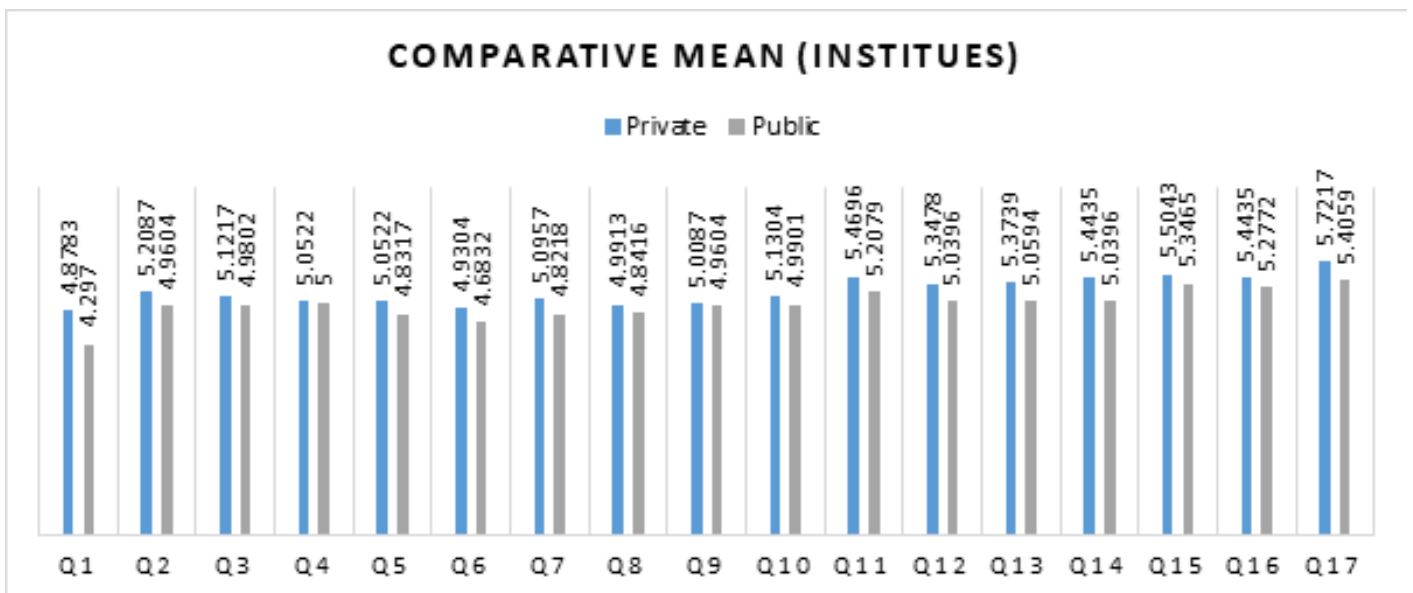


Table 2

	Searching	Planning	Marshaling	Implementing-people	Implementing-financials	Mean
Private (N=115)	5.06	5.03	5.04	5.43	5.72	5.2
Public (N=101)	4.74	4.83	4.93	5.16	5.40	5
(p)Value	0.93	0.22	0.52	0.11	0.14	

Figure 3

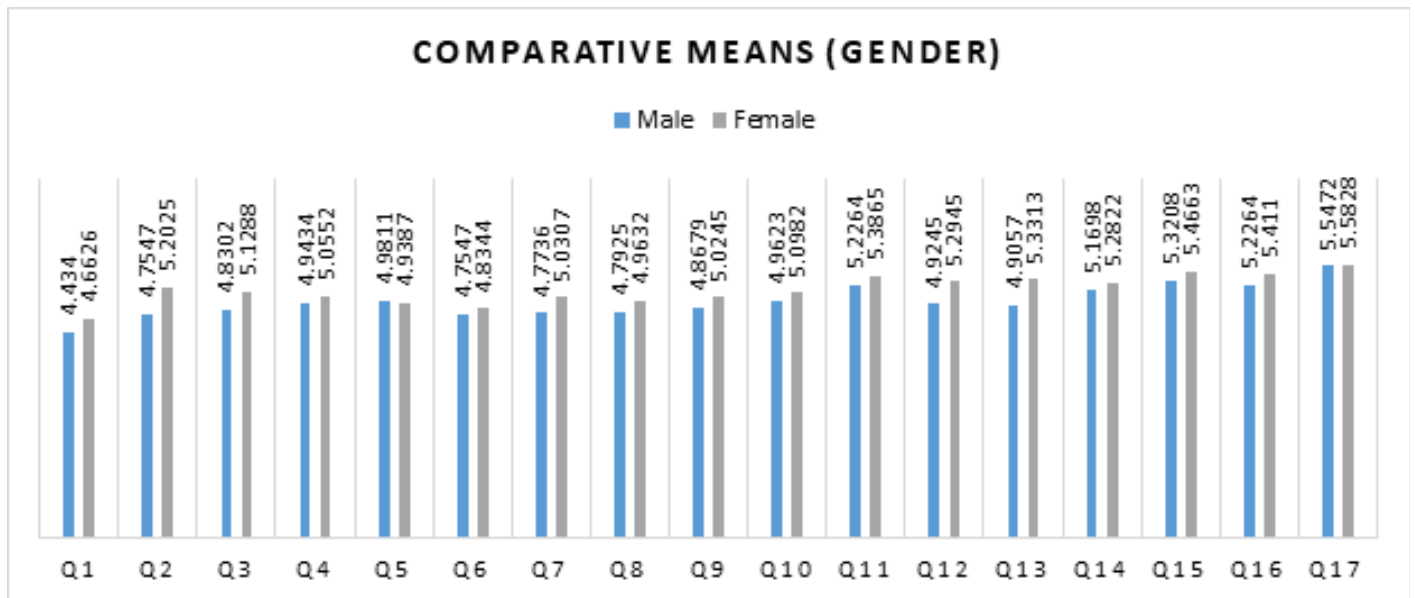


Table 3

	Searching	Planning	Marshaling	Implementing people	Implementing-financials	Mean
Male (N=53)	4.67	4.86	4.87	5.12	5.54	5
Female (N=163)	4.99	4.96	5.02	5.36	5.58	5.1
(p)Value	0.21	0.63	0.45	0.24	0.88	

Discussion: Students from the public and private sectors were included to get an insight into the effect of the institute on student's efficacy.

Out of 219 participants, 163 female and 53 were male. With increased number of female dental surgeons entering in dental market, it is important for them to have knowledge of dental business management. A slight difference was observed among mean values of male and female participants. Independent t test shows no statistically significant difference in both categories of gender.

Highest value recorded in cumulative result of both institutes is (5.57). The students from both institutes agreed on Maintenance and organization of financial records of patients. The analysis of results on the 7-point Likert scale showed that it is in range of agree. Lowest value recorded was (4.6) which indicates neutral response on brainstorming with new ideas. Students should be involved in a brainstorming exercise to present their innovative ideas (Quélin, 2000). Students and house officers feel confident in supervising and training employees and the mean recorded in inspiring, motivating employees was (5.43) and to supervise employees was (5.34) that is in range of agree. Peer-assisted learning needs to be introduced to establish supervisory skills in students (Ten Cate & Durning, 2007)

They feel less confident in estimating the funds to start a dental setup with a mean value of (4.81), which is a range of somewhat agree. Financial management needs to be introduced at an undergraduate level to train students in managing their finances regarding a certain project. Group projects should be assigned to develop the skill of estimating and maintaining the finances of a project. Experiential learning by providing internships with financiers and managers can help in the development of financial management (Chang & Rieple, 2013).

Independent sample t test showed statistically significant difference among institutes in brainstorming ideas ($p=0.01$) and to deal effectively with day to day problems and crisis ($p=0.04$).

The mean results of 5 domains showed that students feel less confident in searching, planning and marshaling but no statistically significant difference observed in 5 domains of ESE among both institutes and gender. It is important to focus on all domains of ESE to increase entrepreneurial efficacy as these are essential for early entrepreneurial education. (Nowiński, Haddoud, Lančarič, Egerová, & Czeglédi, 2019)

Comparative means of both institutes showed a slight difference in abilities which can be due to difference in curriculum followed at both the institutes as private sector institute is following competency-based curriculum at the undergraduate level whereas public sector institute is following traditional

dental curriculum. The competency-based curriculum provokes critical thinking and problem-solving capability in students. (Brewer, 2002) .

A previous study highlighted certain problems that are faced by dental graduates in starting their practice i.e. no knowledge to analyze the dental market and to plan up a project. Poor knowledge of financial management and budget planning for a startup.(Haque & Nakib, 2015).The establishment of dental corporate setups in the country has set a competitive environment for a fresh graduate to exist and work in the dental market. Instead of wasting time in an internship after graduation, they must be equipped with enough entrepreneurial skills to face the competition. Another study focused on the Challenges for the young dentist to compete with the corporate dental setup and emphasized the need of practice management course. (Safi et al., 2015). In General dental practice, it was observed that a fresh graduate takes several years to master the skills of practice management (Nazir et al., 2018). These previous studies highlighted the need for the practice management course. This study focuses on the assessment of ESE of students to facilitate in implementation of practice management in Undergraduate Dental education.

Limitations: The study is descriptive and includes only 2 institutes. Equal number of male and female participants was not included/Number of female participants was higher than that of male participants whereas number of dentists pursuing dentistry as business are mostly male.

Way Forward: There is a need to develop and integrate entrepreneurship and practice management content in curriculum in order to equip graduating young dentists with the right set of knowledge and skills. It is a need of the hour to train and educate graduates for competitive professional dentistry.

Conclusion: This study concludes that students from private and public sector dental colleges have perceived self-efficacy for entrepreneurship at an equal level. Dental students feel a lack of knowledge and direction for practice management. Mean ESE score recorded (5.1) shows students agree with their entrepreneurial skills and have the capability to establish their dental setups but it need to be improved by educating graduates for the concerned purpose.

References:

Bandura, A. (1978). Self-efficacy: Toward a unifying theory of behavioral change. *Advances in Behaviour Research and Therapy*, 1(4), 139–161. [https://doi.org/10.1016/0146-6402\(78\)90002-4](https://doi.org/10.1016/0146-6402(78)90002-4)

Barber, M., Wiesen, R., Arnold, S., Taichman, R. S., & Taichman,

- L. S. (2011). Perceptions of business skill development by graduates of the University of Michigan Dental School. *Journal of Dental Education*, 75(4), 505–517.
- Brewer, T. M. (2002). Integrated curriculum: What benefit? *Arts Education Policy Review*, 103(4), 31–36. <https://doi.org/10.1080/10632910209600296>
- Chang, J., & Rieple, A. (2013). Assessing students' entrepreneurial skills development in live projects. *Journal of Small Business and Enterprise Development*, 20(1), 225–241. <https://doi.org/10.1108/14626001311298501>
- Haque, A., & Nakib, A. A. (2015). Entrepreneurial Training & Dental Professionals: An Educationist's Perspective-2. *International Journal of Oral Health Dentistry*, 1(4), 154. <https://doi.org/10.5958/2395-499x.2015.00002.7>
- Mcgee, J. E., Peterson, M., Mueller, S. L., & Sequeira, J. M. (2009). Entrepreneurial self-efficacy: Refining the measure. *Entrepreneurship: Theory and Practice*, 33(4), 965–988. <https://doi.org/10.1111/j.1540-6520.2009.00304.x>
- Nazir, M. A., Izhar, F., Tariq, K., Anjum, K. M., Sohail, Z. Bin, & Almas, K. (2018). A cross-sectional study of dentists about the need for a practice management course in undergraduate dental program. *European Journal of Dentistry*, 12(4), 508–515. https://doi.org/10.4103/ejd.ejd_184_18
- Nowiński, W., Haddoud, M. Y., Lančarič, D., Egerová, D., & Czeglédi, C. (2019). The impact of entrepreneurship education, entrepreneurial self-efficacy and gender on entrepreneurial intentions of university students in the Visegrad countries. *Studies in Higher Education*, 44(2), 361–379. <https://doi.org/10.1080/03075079.2017.1365359>
- Oyeku, O. M., Oduyoye, O. O., Kabouh, M., Elemo, G. N., Karimu, F. A., & Akindoju, A. F. (2014). On entrepreneurial self efficacy and entrepreneurial success: A conceptual and theoretical framework. *European Journal of Business and ManagementOnline*, 6(26), 95–102.
- Quélin, B. (2000). Core Competencies, R&D Management and Partnerships. *European Management Journal*, 18(5), 476–487. [https://doi.org/10.1016/S0263-2373\(00\)00037-2](https://doi.org/10.1016/S0263-2373(00)00037-2)
- Safi, Y., Khami, M. R., Razeghi, S., Shamloo, N., Soroush, M., Akhgari, E., & Moscowchi, A. (2015). Designing and Implementation of a Course on Successful Dental Practice for Dentists. *Journal of Dentistry (Tehran, Iran)*, 12(6), 447–455. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/26884779>
- Ten Cate, O., & Durning, S. (2007). Peer teaching in medical education: Twelve reasons to move from theory to practice. *Medical Teacher*, 29(6), 591–599. <https://doi.org/10.1080/01421590701606799>
- Trimi, S., & Berbegal-Mirabent, J. (2012). Business model innovation in entrepreneurship. *International Entrepreneurship and Management Journal*, 8(4), 449–465. <https://doi.org/10.1007/s11365-012-0234-3>
- Zhao, H., Hills, G. E., & Seibert, S. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology*, 90(6), 1265–1272. <https://doi.org/10.1037/0021-9010.90.6.1265>