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Neurofeedback Around the World

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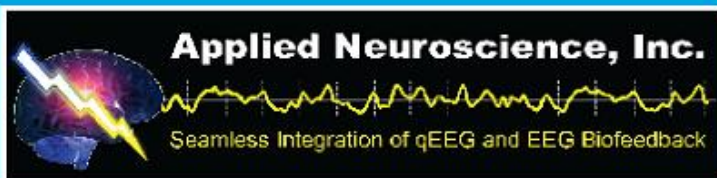
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Neurofeedback Around the World

Martha Catalina Maldonado Rubí, MEd

ABSTRACT. Neurofeedback practices around the world were surveyed. Information was received from 47 practitioners in 27 countries. Time spent in the practice of neurofeedback, training, licensing and certification requirements, professional neurofeedback associations, types of disorders treated and acceptance of neurofeedback in each country are provided and discussed. doi:10.1300/J184v10n04_07

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KEYWORDS. Field study, neurofeedback, practice by country

INTRODUCTION

The practice of neurofeedback (EEG biofeedback, neurotherapy) in the USA and Canada is well known by most practitioners in the world. Studies have been conducted about different health problems like ADD/ADHD (Kaiser & Othmer, 2000; Lubar, 2003; Monastra, 2005; deBeus, Ball, deBeus, & Herrington, 2004; Overcash, 2005; Vernon, Frick, & Gruzelier, 2004; Rossiter, 2002), depression (Baehr, Rosenfeld, & Baehr, 1997; Hammond, 2000); seizures (Ayers, 1995; Sterman & Lantz, 2001), addictions (Saxby & Peniston, 1995; Trudeau, 2000; Trudeau, 2005), brain injury and stroke (Thornton & Carmody, 2005; Hammond, 2005; Tinius & Tinius, 2001; Wing, 2001; Putman, 2001), and pain (Sime, 2004; Hammond, 2001). Further information about neurofeedback research is provided in the comprehensive bibliography on the ISNR web page by Hammond (2006), and in a growing number of books written about the field such as *A Symphony in the Brain* (Robbins,

2000), *The Neurofeedback Book* (Thompson & Thompson, 2003), *The ADD Book* (Thompson & Sears, 1998), *Getting Rid of Ritalin* (Hill & Castro, 2002), and *ADD: The 20-Hour Solution* (Steinberg & Othmer, 2004).

Since neurofeedback developed initially in the USA, information regarding neurotherapy practice in this country, such as required training, disorders treated, fees, professional organizations, and the different systems for training are more readily available; however, relatively little is known about neurofeedback in other parts of the world. The main objectives of this study were to determine: (a) In which other countries is neurofeedback being practiced? (b) How well is it accepted? (c) Who are the practitioners? (d) What kind of health problems or conditions are being treated? (e) How much is charged for services? (f) Are there professional neurofeedback associations? (g) Are there license or certification requirements for its practice? and (h) How do practitioners see the future of the practice of neurofeedback in their countries?

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METHOD

Surveys were sent to 93 practitioners in 47 countries (see Appendix for the list of countries and people responding). Forty-six practitioners, plus the author, responded, providing information from 27 countries between September 2004 and June 2005. Some respondents included information beyond our request (e.g., Stephan Odermatt of Switzerland who polled members of the Societies of Neurofeedback in his country), while others sent responses to only a few questions or provided just brief information.

RESULTS

Responses are organized by country and also assembled into general tables.

Argentina

Dr. Eduardo Rocatti from Argentina kindly gave information regarding the practice of neurofeedback in his country. He provided much information regarding his practice. He says that he, and probably one other professional in Buenos Aires, are the only full time practitioners in Argentina. He estimated that there are three others working part time. He is the builder and developer of a neurofeedback system called QDS NFK-256 (2 and 4 channels), and software for brain mapping known as Robotics which includes topographic brain maps and a neurophysiological diagnostic. His systems are used for both evaluation and training. Dr. Rocatti's main interest is in treating patients suffering from ADD/ADHD, and other difficult health problems like traumatic coma and lock-in syndrome (where patients are cognitively intact and demonstrate alert wakefulness, but are paralyzed and unable to speak, due usually to vascular rather than traumatic causes). He also trains people for peak performance. He foresees an outstanding future for neurofeedback which, he explains, has a 100% acceptance from the medical community because he has been involved in giving lectures and teaching about its benefits for different problems.

Australia

Geraldine Knights from Australia explains that 40 practitioners have full time practices in neurofeedback. She said she has been working in this field for seven and one-half years, but only part time since she does not have many clients. She noted that the reason people are not interested in neurofeedback treatment is because most of them think that this treatment should be available through Medicare.

Bolivia

Patricia Wiener from Bolivia explained that she is a pioneer in the field, and probably the only practitioner of neurofeedback in her country.

Canada

From Canada, Dave Siever kindly provided information about the practice of neurofeedback in his country. He indicated that there are about 20 full time practitioners, plus about 50 others working part time. Most of them are psychologists. He believes that techniques used in neuroimaging research could support neurofeedback; however he explains that, unfortunately, much of it is used to substantiate drug therapy. He used neurofeedback for several years, but now he uses visual entrainment therapy, combined with cognitive therapy and relaxation therapy. Dr. Susan Diamond states that one reason neurofeedback is not well accepted in Canada is that there are no courses taught in medical schools. The American Academy of Pediatrics and others have not made an effort to get involved and promote the teaching of neurofeedback in medical schools. There is also a lack of research and scientific publications. Dr. Diamond also sees a problem with lack of regulation of the practice of neurofeedback, noting that almost anyone, even with few credentials, can enter in this field. There is no program for graduate students in the Canadian universities. Dr. Diamond has been in the practice of neurofeedback for seven years. Her work is in private practice and she has a busy agenda of patients. Her specialty is with learning disabilities and severe conduct disorders.

Czech Republic

Dr. Jiri Tyl from Czech Republic is very active as a neurofeedback practitioner. He has developed a huge practice with 60 clinics in just one city. Czechia has a population of 10 million. He has contributed to the expansion of neurofeedback practice in Europe since he has trained 325 practitioners in 26 surrounding countries at his Biofeedback Institute. His special hobby is to collect case studies on the efficacy of neurofeedback. He noted that he has collected 650 up to 2004 and has completed a meta-analysis of the data.

Estonia

Another country where there are only one or two practitioners is Estonia. Dr. Giselher Schalow says that “biofeedback learning” should include the whole central nervous system, autonomic nervous system and higher mental functions. He stated that the malfunctioning human central nervous system can be repaired by learning. He states that the efficacy of the neurofeedback technique needs to be enhanced further, and should be integrated into a holistic “biofeedback learning.”

France

In France, Dr. Marco Congedo reports that neurofeedback in that country is rarely practiced since there are only two part-time practitioners. His interest is in related research more than clinical practice.

Germany

Germany is a country with several practitioners of neurofeedback, but very little information was provided. Elmar Weiler said there are 10 practitioners involved full time. He is satisfied with his results treating tinnitus, vertigo, cerebral palsy, motor skills and speech development.

Honduras

In Honduras, Ricardo Pavón noted that there are only two part time practitioners. He started in neurofeedback back in the 1960s as an ad-

mired and follower of Joe Kamiya and Barbara Brown. Soon after he graduated from UCLA he started his training in “alpha waves.” During the 1980s he worked successfully with patients who suffered from stuttering, phobias, anxiety and panic disorders, using a combination of neurofeedback and peripheral biofeedback as well as other cognitive/behavior therapies. In the 1990s he started to get back on track with new developments in equipment, and began using equipment from Focused Technology (with some technical help from Frank Diets, owner of Focused Technology). He says that he keeps abreast of the field through the related US associations and continues to work part time with neurofeedback.

Italy

Giancarlo Canducci reported there are some plans to start the practice of neurofeedback in Italy. No other information regarding Italy and neurofeedback was provided.

Israel

Anat Barnea and Orit Sodermann report that Israel is another country where the practice of neurofeedback is just beginning with two to three full-time practitioners.

Latvia

In Latvia, Paulis Butlers says that neurofeedback practice is just beginning, and that right now, they are using it only for educational purposes. Recently, Dr. Butlers and colleagues have developed a neurofeedback course for professionals at Riga Stradins University. There seems to be increasing interest in the field in this country.

Lithuania

Giedrius Varoneckas wrote that at the moment there are no persons doing biofeedback/neurofeedback in Lithuania. They intend to implement techniques for the training of anxiety disorders, depression, and insomnia as well as for patients under cardiac rehabilitation in the near future.

Macedonia

Jordan Pop-Jordanov from Macedonia says that there are only two full-time neurofeedback practitioners in his country. Neurofeedback started to be used in Macedonia just five years ago. Interest in it and the number of patients is steadily increasing. In Macedonia there are two teams applying neurofeedback: one at the Pediatric Clinic, Faculty of Medicine, University of Skopje and the other at the Research Center for Energy, Informatics and Materials of the Macedonian Academy of Sciences and Arts. Both groups have obtained favorable results.

México

In México Miriam Soffer, Adrian Roel, Jaime Romano, Patricia Campos, and the author of this article, among a few others, are pioneers of neurofeedback and have been working in this field for more than ten years. Miriam Soffer has been practicing neurofeedback for 14 years. She treats different health problems including AD/HD, anxiety, PTSD, and brain injuries. She also is specialized as a peak performance trainer. She considers that neurofeedback has a great future in México, but it should be integrated within a multidisciplinary treatment. Adrian Roel sees the future of the field very optimistically and says “. . . psychologists are embracing it and have found an effective way of helping a variety of problems.” Jaime Romano is a neurophysiologist and an expert on quantitative EEG. He has contributed to the expansion of the practice of neurofeedback in México, providing training to many professionals and treatment to hundreds of patients in his clinics. He and his group organized the first Neurofeedback Association and the first Mexican Association and Congress of Biofeedback and Neurofeedback.

Patricia Campos has been involved in the field of biofeedback and neurofeedback for many years. She is a therapist at the Instituto Mexicano de Psiquiatría (Mexican Institute of Psychiatry) where, she reports, neurofeedback is being accepted gradually, though with difficulty since medical doctors still believe that observed effects in patients are due to the medication and to placebo effects. She believes that neurofeedback has a good future in México, but

health professionals need to become more involved in scientific research. The recent growth of the neurosciences and neuroimaging procedures will support the use and the practice of neurofeedback. Finally, she stated that neurofeedback professionals need to be well prepared, and the practice of neurofeedback should be regulated.

The author of this article, Martha Maldonado, has been involved in the practice of neurofeedback for more than 10 years. Her main interest is working with children and adolescents who have AD/HD and anxiety disorders, but she also works with depressed patients and patients who suffer from vascular cerebral accidents. She has had training in peripheral biofeedback and neurofeedback, and has been on internships in the US. She considers that recently the practice of neurofeedback has become better accepted among the medical community and the general population. Interest in the practice of neurofeedback is increasing; however, no regulatory measures have been established for practice, such as requiring a health practitioner degree, knowledge about psychophysiology and neurophysiology, and a deep knowledge on peripheral and neurofeedback theory and practice. There is neither a licensing or certification requirement. She considers this to be a great problem for the growth of this field. She believes that the most important step to take at this moment is to make efforts to contact and organize all neurofeedback practitioners in México, to know who they are, and work as a unified task group.

Netherlands

The Netherlands is a country where neurofeedback is becoming popular. Erica Heesen wrote that there are approximately 150 full-time and 250 part-time practitioners, mainly psychologists. Also there are four professional associations: Diever, Nijmegen, Oost Nederland, and Eindhoven. She believes that neurofeedback will become more popular, at first probably due to “mouth-to-mouth” advertising (for the public), and later when scientific research proves that neurofeedback truly is effective. She thinks that it is a very promising treatment for drug resistant patients or people who need to “re-find their balance.”

Berry Gerrits, also from the Netherlands, says that he has one year experience (full time) in neurofeedback and QEEG. He is also certified by the Biofeedback Certification Institute of America. He thinks that neurofeedback is the best thing that ever happened to him and his patients. He specializes in burnout and mild traumatic brain injury (MTBI). He noted that he always uses training based on QEEG/database findings. Dity Van Wijt has a clinic called *Attent Centrum voor Gezondheidspsychologie en Neurofeedback* in Deventer (midst-east of the Netherlands) where he and his daughter have a practice. They work mainly with AD/HD patients. Ineke Bass, another practitioner from the same place, sent only partial information. She says that in her practice they follow the sequence of: intake plus anamnesis, MMPI plus QEEG, neurofeedback treatment and post testing.

New Zealand

Kenneth Kang and Joe Breayley from New Zealand are among the very few practitioners of neurofeedback in that land. Kenneth Kang started his practice in 1995 and his main experience is with autism, ADHD and other developmental disorders. Joy Breayley is currently the President of the Biofeedback Society in New Zealand, and has been trying to integrate neurofeedback and EEG assessment into his practice.

Norway

Oysten Larsen from Norway reported that the neurofeedback practitioners working full time in that country number five or six, and are from different disciplines and use varying methods for different ailments. He has been practicing for eight years.

Philippines

Neurotherapy in the Philippines is in its infancy, says Dr. Leticia Penano-Ho. As a matter of fact, the practice of neurofeedback by others in her country has just very recently started (November, 2004). She began to work with neurofeedback techniques in 1979.

Rumania

Dr. Liviu Dragomirescu from Rumania reported he has just begun a neurofeedback practice in his country where he is the only practitioner. However, he is interested in working to introduce neurofeedback in Rumania and make it well known. He said he is in the popularization stage and is working with the legislature to develop rules for neurofeedback practice. In the meantime he is teaching students in two universities in Bucharest.

Russia

Dr. Juri Kropotov reported that there are 20 to 30 full time neurofeedback practitioners in Russia. He has been in the practice and also engaging in research in the area for some time. He is the head of a research facility and director of an ADHD center.

South Africa

In South Africa, the practice of neurofeedback also is just beginning. Dr. Hannelie Kemp explained that interest is maturing, but still is disorganized.

Sweden

Seija Sirviö, a neuropsychologist from Stockholm, Sweden, reports that there are no full-time practitioners in his country, only some part time. He stated that he began in the field not long ago, and he is very satisfied with the results on his patients who suffer from sleep disorders and concentration difficulties. He also uses neurofeedback for pain management and relaxation. He recently participated in a TV program in Finland and gave a demonstration on how neurofeedback worked with a patient who had fibromyalgia. He said that interest in the field is growing, mainly within the organization of neuropsychologists. He believes that in a few years they will see a large group of trainees.

Switzerland

In Switzerland, Stephan Odermatt kindly took on the task of doing research in his country to answer the survey. He searched a list of full

members from the two neurofeedback associations in his country: the Neurofeedback Association of Switzerland (NAS) and the Neurofeedback Organisation Schweiz (NOS). He found that there are 66 neurofeedback practitioners. It follows that Switzerland has the largest number of neurofeedback practitioners in proportion to the country's population (7,200,000 people). According to the Dr. Gruzelier, president of the Society of Applied Neuroscience (SAN), Swiss neurofeedback practitioners form the largest community from any one country within the European neurofeedback organization (formerly known as ISNR-EU). Neurofeedback has been developing very rapidly over the past four years, and at the moment there are two schools for neurofeedback education.

He believes that neurofeedback will spread even more widely in Switzerland. He is co-director of the Neurofeedback Institut Schweiz Dollfus & Odermatt, which he administers together with Cornelia Dollfus, MD. They offer professional training in applied kinesiology and neurofeedback mainly for children and adolescents suffering from AD/HD, various learning disabilities, fears, depression, etc. He began his successful practice in the spring of 2002, also incorporating hemoencephalography. He uses a variety of neurofeedback systems and other devices in his clinical practice. Bruno Gasser, also from Switzerland, reported that he has been in the practice of neurofeedback for three years. His patients are mainly youths, but he also treats older patients with different problems. They are said to be making great progress and are satisfied with the training.

Turkey

Dr. Tanju Surmeli a psychiatrist from Istanbul Turkey, reports that he is the only full time practitioner in his country. He is very content with his neurofeedback practice, and his unique work with children who have Down's syndrome. He has worked with more than 15 cases, and notes they have responded very well to the treatment. He has also worked very successfully with mentally retarded children (16 cases). Dr. Surmeli believes that neurofeedback will take an important role in the treatment of neuropsychiatric disorders.

United Kingdom

Regarding the United Kingdom, Surinder Kaur says that as far as he knows he is the only full-time practitioner, along with two other part-time practitioners. He set up the first full-time practice in the UK in 1996. For this reason, he is very experienced with the technique and provides a comprehensive service for different health problems including learning problems and developmental and behavioral disorders (ADHD, dyspraxia, dyslexia, autism, Aspergers, global developmental delay, mood disorders, epilepsy and many others). He has been registered by the National Health Service as a provider of neurofeedback in the UK since 1996. He is concerned about "the growing number of practitioners who are lacking the confidence, expertise or commitment to provide proper neurofeedback service."

On the other hand, Melissa Foks (on behalf of John Gruzelier) from London estimated that there are around five full-time neurofeedback practitioners in the UK. To date, she says, much of the research in the UK has centered around alpha/theta work, performance enhancement and the effects of SMR and beta training on attention and memory. However, she notes that with the major research into ADHD being carried out at present, she expects to see serious consideration given to the application of neurofeedback in educational contexts. Her experience is with children with learning and attentional difficulties.

Responses to Survey Questions

Time Spent in Practice of Neurofeedback

According to the responses to the survey, there are more practitioners dedicating part time to the practice of neurofeedback than those who are dedicated to the practice full time (Tables 1).

Types of Professionals Practicing Neurofeedback

The majority of professionals practicing neurofeedback around the world are psychologists. The next most common groups of practitioners are neurologists, followed by psychia-

TABLE 1. Estimated practitioners, licensing requirements, approximate fee per session, acceptance, and professionals involved in neurofeedback practice, by country.

| Country | Full-Time Practices | Part-Time Practices | Licensing Requirement | Fee Charged |
|-------------|---------------------|---------------------|-----------------------|---------------|
| Argentina | 2 | 3 | No | \$20-\$80 |
| Australia | 40 | 40 | No | \$65 AUS |
| Bolivia | 1 | | No | \$13-\$15 USA |
| Canada | 20 | 45 | No | \$90-120 CAN |
| Estonia | 2 | 1 | Yes | \$25 USA |
| France | | 2 | No | 50-80 € |
| Germany | 10 | | No | \$60 USA |
| Honduras | 2 | 2 | No | \$18 USA |
| Israel | 2-3 | 10-12 | No | \$35-\$80 USA |
| Macedonia | 2 | 3 | No | \$10 USA |
| México | 150 | 200 | No | \$45 USA |
| Netherlands | 10 | 100 | No | 50-80 € |
| New Zealand | 2 | 2 | No | \$80 USA |
| Norway | 5 | 15 | No | \$70-100 USA |

trists, other physicians and social workers. A few educators, nurses and chiropractors also practice neurofeedback.

Training, Licensing and Certification Requirements

The United States, Estonia, Russia, the UK and Switzerland are the only countries that require a license or certification. This is probably because in most countries the practice of neurofeedback is very new.

Professional Neurofeedback Associations

There are only a few countries where professionals are organized within an association. Most countries are just getting involved in the practice of neurofeedback, and may not have enough practitioners to form associations.

Average Fees for Neurofeedback Treatment

The average fee charged for a neurofeedback session varies widely by country. There are those who charge the equivalent of 100 to 150 American dollars, and those who charge as few as five American dollars per session. The cost

for treatment is paid by the welfare system in Sweden.

Acceptance of Neurofeedback

Most respondents, with the exception of Argentina, reported that neurofeedback is not widely accepted by the general public or by the medical community. It was often suggested that this is because there is a lack of information regarding its benefits. It is a new, little known technique in many countries. Some noted that it is because there is insufficient research done to demonstrate its benefits. There was some suggestion that medical doctors might think they would lose patients if they recommend neurofeedback as an alternative treatment. And, in some countries people do not seek this kind of treatment because the cost per session is not affordable.

Types of Disorders Treated

The practice of neurofeedback is primarily focused on Attention Deficit Disorder and Attention Deficit/Hyperactivity Disorder. Practitioners in most of the countries treat this condition. Depression and anxiety are the two other

most common disorders being treated. Other disorders treated are epilepsy, traumatic brain injury, sleep problems and a few others (see Table 2).

The Future of Neurofeedback

Most professionals see a great future for neurofeedback once it becomes well known and accepted by the general public and the medical community. Some believe this will be accomplished once persons practicing in the area become sufficiently interested and involved in doing research and reporting case studies in

professional publications. Some respondents feel there must be high priority placed on advertisement for making neurofeedback well known worldwide, and educating different audiences about its benefits as supported by research. There was general concern about the need for greater integration of practitioners through associations, and more regulation of the practice. In general most practitioners reported being satisfied with the results they are getting with neurofeedback. They believe that results are positive and effective. Several noted that this is a field that represents a great challenge for practitioners, and where there is still much to do.

TABLE 2. Disorders addressed by neurofeedback practitioners, by country.

| Country | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------|-----------------|---------------------------------|-----------------------------------|-----------|----------------------|------------------------------------|
| Argentina | ADD/ADHD/LD | Depression | Anxiety Panic disorder | | Bulimia/ Anorexia | Locked-In Syndrome |
| Australia | ADD/ADHD OCD | Depression | | Epilepsy | | |
| Bolivia | ADD/ADHD LD | | Emotional Disturbances | Epilepsy | | |
| Canada | ADD/ADHD/LD | Depression | Anxiety | Epilepsy | Sleep disorders | Pain |
| Estonia | | | | Parkinson | Stroke | Cerebral Palsy |
| Germany | ADD/ADHD | Depression | Tinnitus | | Tourette | Cerebral Palsy |
| Honduras | ADD/ADHD | Depression | Anxiety | | Sleep disorders | Pain |
| Israel | ADD/ADHD | | Anxiety | Epilepsy | | Migraine |
| Macedonia | ADD/ADHD | Depression | PTSD | | Anorexia | Migraine |
| México | ADD/ADHD | Depression | Stress/Anxiety | | | Neurological disorders |
| Netherlands | ADD/ADHD | | Burn out | Epilepsy | Sleep disorders | Pain |
| New Zealand | ADD/ADHD/LD | Mental health conditions | Stress, Anxiety PTSD | | Sleep disorders | Reactive attachment |
| Norway | ADD/ADHD | | Anxiety/Panic Stress | | | Tourette |
| Philippines | ADD/ADHD/LD | Depression | | | | |
| Russia | ADD/ADHD | | Anxiety | | Sleep disorders | Vision |
| Singapore | ADD/ADHD/LD | CP | | | | |
| Sweden | ADD/ADHD | | | | Sleep disorders | Pain |
| Switzerland | ADD/ADHD/LD | Depression | Fears Panic/Attacks | | | Oppositional Defiant Disorder |
| Turkey | ADD/ADHD/LD | Depression | Anxiety | Epilepsy | | Down Syndrome Mentally Retarded |
| United Kingdom | ADD/ADHD | Social Emotional Problems | Anxiety/Stress PTSD Bruxism | | Sleep disorders | Dyslexia |

DISCUSSION

This survey provided an opportunity to present information about neurofeedback practices in diverse parts of the globe other than the United States. Hopefully, many readers of this article will be pleased to learn that their interests and concerns are shared by a growing number of neurofeedback practitioners in many countries. The practice of neurofeedback is becoming more popular and well accepted, though there is still much resistance from the medical community whose members generally are not well informed about its benefits, and are comfortable treating patients through biochemical means. There is a consensus among countries that neurofeedback is a safe, alternative technique which produces no secondary side effects, and which has demonstrated efficacy and efficiency as a treatment for different disorders.

Many scientific studies have been done (especially in the USA), and others are taking place around the world in an effort to demonstrate the efficacy of neurofeedback and validate the reputation it has earned through years of clinical experience. Hopefully, practitioners from different countries, once having expressed their concerns about the future of neurofeedback, will become involved in scientific research as Drs. Jiri Tyl, Liviu Dragomirescu, John Gruzelier, Marco Congedo, and Juri Kropotov who responded to this survey are doing. Efforts have been made to develop templates for creating guidelines for the evaluation of the clinical efficacy of psychophysiological interventions (La Vaque, et al. 2002; Moss & Gunkelman, 2002; Striefel, 1999; Striefel, 2000). However, practitioners in most countries do not have the economic resources or the scientific background to carry out rigorous scientific research. The cost of neurofeedback systems also is an impediment for some professionals who want to conduct a study, but cannot afford to buy a system for training, or a system for assessment and other devices for evaluation.

It is highly desirable that people around the world share experience and research through scientific organizations such as the International Society for Neuronal Regulation (ISNR), the Association for Applied Psychophysiology and Biofeedback (AAPB), the former ISNR-EU

now called the Society for Applied Neuroscience, the Biofeedback Society of Europe, or other neurofeedback societies around the world, even if that experience is based only on case studies. Unfortunately, however, attending annual conferences of such organizations involves expenses that many people doing neurofeedback are not able to afford.

Another problem that some countries face is the lack of regulation and ethics in the practice of neurofeedback. As reported, some practitioners work without proper training. Their results may give neurofeedback a bad reputation and rejection from part of the general public and the scientific community. In México for example, accountants, fashion designers and others have bought a neurofeedback system thinking that just "plugging the patient in" would do the job. Some psychiatrists have bought a system without getting adequate training and hired untrained technicians to carry out treatment because they think that neurofeedback is a technique that anybody can manage, or that the system will work by itself. As a result, patients are not changing and are disappointed with their treatment. This is a problem that will stay until the practice of this field becomes well regulated.

Even though there are optimistic views about the future of this field; many people around the world are practically working in isolation, even within their own countries. There are neurofeedback associations, of course, but those are in just a few countries. How in the world are practitioners going to take steps to advance the field beyond their private practices? How can they look for funds if they want to do research and/or publish scientific articles? How can those who lack a scientific background or who want to learn more about advances in the field attain these? Perhaps a partial answer lies in informal communication and collaboration among practitioners around the world. All neurofeedback practitioners are invited to start making acquaintances with others who were willing to share information regarding the practice of neurofeedback in their countries, their optimistic point of views, their worries and concerns. Perhaps a very large circle of friends around the world thus will be created to share ideas and dreams for the field.

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APPENDIX. List of survey respondents

| COUNTRY | NAME |
|----------------|--|
| Argentina | Eduardo Rocatti |
| Australia | Geraldine Knights |
| Baltic/Latvia | Paulis Butlers |
| Bolivia | Patricia Wiener |
| Canada | Dave Siever, Susan Diamond |
| Czech Republic | Jiri Tyl |
| Estonia | Giselher Schalow |
| France | Marco Congedo, Jean Claude |
| Germany | Elmar Weiler |
| Honduras | Ricardo Pavon Castillo |
| Israel | Anat Barnea, Orit Sodermann |
| Lithuania | Giedrius Varoneckas |
| Macedonia | Jordan Pop-Jordanov |
| México | Jaime Romano, Elena Anton, Patricia Campos, Adrian Roel |
| Netherlands | Dity Van Wijk, Berrie Gerrits, Erica Hessen, Ineke Baas |
| New Zealand | Joy Breayley, Kenneth Kang |
| Norway | Oysten Larsen |
| Phillipines | Leticia Penano-Ho |
| Rumania | Liviu Dragomirescu |
| Russia | Kropotov |
| Singapore | Kenneth Kang |
| South Africa | Hannelie Kemp |
| Sweden | Seija Sirviö |
| Switzerland | Bruno Gasser, Stephan Odermatt |
| Turkey | Tanju Surmeli |
| United Kingdom | John Gruzelier, Melissa Foks, Surinder Kaur |
| United States | Michael Cohen, Victoria Ibric, Tom Collura, Siegfried Othmer, Joel Lubar, Stephen Overcash |