

A History of the Professional Credentialing of Applied Behavior Analysts

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Abstract The need for a credible professional credential became apparent early in the history of applied behavior analysis. The first efforts to develop a system that identified behavior-analytic practitioners having a specified level of expertise in the profession began in the early 1970s. Over the years, a number of credentialing initiatives were developed in an effort to meet the profession's growing needs for a means of establishing a meaningful professional identity. This article reviews the evolution of these initiatives, culminating with the Behavior Analyst Certification Board and the more recent movement toward state licensure.

Keywords BACB · Behavior analyst certification board · Certification · Credentialing · Licensure

The professional landscape of applied behavior analysis (ABA) has changed dramatically in recent years. In just the past decade, we have witnessed the following developments: a threefold increase in the practitioner workforce; increased recognition of ABA by funders and governments; the inception and growth of dozens of new training programs; practitioner-oriented publications such as *Behavior Analysis in Practice*; and the founding of a professional association devoted to ABA practitioners (Association of Professional

This article is dedicated to the memory of Jerry Shook, whose tireless efforts on behalf of professional credentialing will continue to strengthen the profession for years to come.

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Behavior Analysts). The rapidity of these developments has resulted in a profession that looks and feels quite different than it did just a few years ago. Behavior analysts have wanted to be “on the radar” for decades and that goal is being realized. Although new to ABA, these developments are a normal aspect of the maturation of a profession. Our profession is not yet fully matured, but it appears to be well on its way.

One of the customary features of a profession’s development is a credential that establishes entry requirements into the profession and signals to the public that a practitioner has met those requirements. The past two decades have brought ABA the credentialing programs offered by the Behavior Analyst Certification Board® (BACB®) and by US states with licensure – two credentialing initiatives about which readers who are interested in practice are likely to be familiar. However, the history of credentialing in ABA extends back nearly half a century and subsumes six distinct credentialing efforts, only some of which have been described previously in the scholarly literature. The purpose of this article is to summarize the history of professional credentialing of ABA practitioners. Such a history is important for at least two reasons.

First, due to the striking growth of BACB certification and US state licensure initiatives, it may not be widely appreciated that applied behavior analysts worked for decades to develop professional credentials and that their efforts resulted in both failures and successes that inform current credentialing systems. Second, much of the documentation of those early efforts is not found in the archival literature. To complicate matters, as Rutherford (2009) noted, some of the individuals best acquainted with ABA’s seminal events – those who were present for them – have passed away or are reaching the end of their professional careers. Consequently, it is already difficult to reconstruct several details of early ABA credentialing efforts. This illustrates why there is a certain urgency about preserving the history of ABA credentialing efforts before it is lost to memory.

Early Discussions about Credentialing

Early applied behavior-change efforts coalesced into the beginnings of a profession¹ remarkably quickly. The first scientific reports of treatments explicitly derived from operant principles were published in the late 1950s (e.g., Ayllon & Michael, 1959; Williams, 1959). In under a decade, the early applied literature had been collected into its first books (e.g., Krasner & Ullmann, 1965; Ullmann & Krasner, 1965), the term “behavior modification” was coined to describe the approach, and the first journal devoted to ABA research (*Journal of Applied Behavior Analysis*) was founded. The increasing production of graduates from early ABA training programs, and ABA practitioners’ effectiveness in addressing the needs of individuals with developmental disabilities led to a growing interest in ABA technology by state and private employers throughout the 1970s.

Early on, behavior analysts were interested in certification processes that would protect both consumers and the profession. The primary concerns expressed at the time dealt with poorly trained individuals who would harm both consumers and the profession’s reputation through their incompetence. The primary example from this era was a

¹ We use the term “profession” to refer to ABA practitioners and their professional infrastructure and the term “discipline” to refer to behavior analysis as a whole.

doctoral-level professional in south Florida whose institutional treatment of adolescents with borderline intellectual disability – in the name of behavior modification – was so abhorrent that it ultimately led to a highly publicized state investigation (Michael, 1972). Examples of his practices included forced masturbation for individuals caught masturbating, public shaming of individuals caught lying, contingent beatings with a wooden paddle for running away, excessive use of lengthy exclusion, among others (Bailey & Burch, 2016). It is interesting to note that leading behavior analysts of the time believed these kinds of abuses were likely a result of the fact that there was no formal definition of a “behavior modifier” and that the treatment approach had been oversold in ways that suggested that anyone could implement treatment. Michael (1972) summarized the concern as follows: “Will the REAL behavior modifier please stand up?” (p. 26).

The general argument for some form of certification was that not only were there various benefits of such an initiative, but that constraints would be imposed from outside the profession if some means of identifying skilled practitioners was not found (Michael, 1972). This threat was quite real. Behavioral procedures in those early days often focused on reducing problem behavior using punishing consequences that, even then, raised concerns for consumer advocates, employers, and the courts. Furthermore, the understanding of ABA as a technology by outside interests was often naïve and distorted. Behavior modification, the term most often used to describe ABA by those within and outside the profession, had quickly come to generically refer to any attempt to change behavior, regardless of theoretical orientation. Indeed, behavior modification was even defined to include psychosurgery, psychotropic drugs, physical restraints, and sensory deprivation (Bailey, 1975). Reductive procedures in this period used consequences such as electric shock, time-out boxes, deprivation of meals, slapping, aversive tastes, water spray, and more. The courts were beginning to get involved in human services (Martin, 1975), and state and federal agencies were increasingly viewing behavior modification with concern (Johnston & Shook, 1988; Thomas, 1979).

The problem of under-qualified practitioners was discussed by a panel at the Third Annual Conference on Behavior Analysis in Education convened in Lawrence, KS (Michael, 1972). The status of training and credentialing standards was well articulated in the panel summary:

As the field continues to grow, we can no longer dismiss lightly mundane issues such as standardized training programs and licensing. The days when it was possible to be on a first name basis with all of the behavior modifiers in the country no longer exist. No longer is it possible to list all of the behavior modifiers by listing the past students of Skinner, Bijou, Baer, Michael, Azrin, and the rest. No longer is it possible to list all of the behavior modifiers by references to the university from which they were graduated. (Thomas, 1972, p. 34).

The discussion of these issues continued at the 1974 Drake Conference on Professional Issues in Behavior Analysis (Wood, 1975), as well as at subsequent meetings of the Midwestern Association for Behavior Analysis (MABA) – the predecessor to the Association for Behavior Analysis International – in 1975, 1976, and 1977. Although not all behavior analysts were in favor of credentialing (e.g., Agras, 1973;

Bailey, 1975; Risley, 1975), the arguments in favor of it eventually led to a formal recommendation in 1977 from MABA's Education and Evaluation Committee to its executive council that the organization develop a certification program for its members (Krapfl et al., 1977; Thomas, 1979).

The Minnesota Certification Program

Events developing in Minnesota in the 1970s were not unusual. The lack of appropriate job classifications for behavior analysts made it difficult to recruit individuals who had formal training in behavior analysis into certain state positions; thus, there was a need to develop a suitable "career ladder" within state systems. Minnesota's developmental disabilities residential treatment program within the Department of Public Welfare therefore developed a job-classification system that included both paraprofessional (technician) and professional levels to identify trained personnel. Position placement was determined by multiple-choice testing procedures, supplemented by screening of job performance during a probationary period (Thomas, 1979). The content of the required competencies was based on a survey conducted by Sulzer-Azaroff, Thaw, and Thomas (1975), which showed a high level of agreement among ABA professionals across the country. Pressure from outside groups to identify specific competencies, especially relating to the use of aversive procedures prompted the formation of a new task force, which oversaw two additional surveys before the competency was deemed satisfactory. Screening procedures for entry into the top professional category were then revised (Thomas, 1979). The Minnesota Department of Welfare began certifying individuals for placement in its behavior analysis positions in 1977. Unfortunately, this program was relatively short lived. Within a decade, a lack of administrative support resulted in the cessation of examination for behavior analyst job placement (Shook, Johnston, Cone, Thomas, & Greer, 1988), although the behavior analyst job classification system remained in place.

Although the Minnesota program represented an internal credentialing program instead of one with broader applicability, this effort of the growing profession to identify by examination individuals who had specified minimum competencies in behavior analysis was an important first step. It revealed the early desire of ABA professionals to clearly define their profession by developing a system for identifying individuals who had at least a certain level of expertise in the behavior analysis. The eventual procedures were based on multiple surveys and included both testing individuals with a paper-and-pencil examination and by screening of job performance. Finally, the effort was conducted with reference to not only parochial professional needs but the interests of state agencies, which encouraged the state to initially support the project and the resulting system.

The Association for Behavior Analysis Certification Program

One of the early actions of MABA was to form an Education and Evaluation Committee (chaired by Jon Krapfl), its third committee after the Program and Membership committees (Peterson, 1978). A 1977 report from this committee proposed that the organization

establish a program for certifying individuals in behavior analysis. MABA's Executive Council approved adding this function to the committee in 1978 (Peterson). A year later, the committee recommended a two-stage certification model in which a first stage would involve a general examination assessing verbal competency in using behavior-analytic principles and a second stage would assess both verbal and practical skills in a specialized area of practice. In 1979, the Executive Council of the newly named Association for Behavior Analysis approved in principle the committee's proposal for certification.

In the years that followed, a number of members of the organization served on a variety of committees in an effort to implement the new certification program. From 1982 to 1985, first-stage (general principles) examinations were administered. Before the administration of second-stage examinations, however, the Executive Council (in the fall of 1986) ordered a review of the nascent certification program due to concerns about the program's rigor and the expense and effort associated with its operation. Preliminary information about the program's lack of adherence to established credentialing standards were presented at the 1987 convention meeting of the Executive Council by the first author, the newly appointed liaison to the certification committee. The Executive Council suspended the program and appointed Jerry Shook to chair a new task force to study the program.

In 1988, the task force report documented a number of serious problems with the program. These included that the program lacked a clearly stated purpose, and that the examination was not based on a job analysis of practitioners, had "marginal" reliability, inadequate examination security, and no standardized procedures for administration. The task force therefore recommended that the existing examination program not be reinstated. The amount of work and expense required to bring the certification program up to standards established by the credentialing industry would be a challenge for the association at the time. Thus, the Executive Committee accepted the task force's recommendation. Of note is that the minutes of the Fall 1987 meeting of the Executive Council suggest that no certificates had been issued for those who had completed the first stage of the certification process.

Two Florida Credentialing Initiatives

An Early Certificate Program

As described earlier, problematic events associated with "behavior modification" were discovered at a Florida state developmental center in the early 1970s. This situation eventually led to the development of a framework for the delivery of ABA services to individuals with intellectual disabilities served by the state. These regulations included the formation of a statewide Peer Review Committee (PRC) of doctoral-level experts in behavior analysis charged with monitoring the delivery of these services.

As the PRC members conducted on-site visits to various service centers, they realized that many personnel charged with implementing this system were ill prepared for the task. With the support of the committee, Henry Pennypacker, one of its members, put together a modest training curriculum based on an undergraduate course he had been teaching at the University of Florida for some years. As PRC members

began teaching the curriculum in two-day workshops around the state in the late 1970s, the idea emerged of offering a credential as an incentive for staff to attend the sessions.

The examination developed for this certificate program² involved both short- and long-answer free-response items. There were no eligibility requirements for the examination and individuals took as much time as they needed to complete it, which in some cases was more than a full day. Exams were scored by Pennypacker or by the first author, who was then a colleague at the University of Florida. A passing score was designated as 90% correct, based on research on behavioral instructional methods conducted some years earlier (Johnston & Pennypacker, 1971). The examination was given at multiple sites on an irregular basis, and those who passed were given a simple paper certificate signed by Pennypacker and Charles Kimber, Director of the Florida Developmental Services Program Office. The number of individuals earning the certificate is unknown, although it was probably not more than a few dozen. It is also unclear when this early certification effort ended, although it lasted only a few years.

A Professional Certification Program

The informal certificate program initiated by Pennypacker and others paved the way for the development of a professional certification credential – Certified Behavior Analyst (CBA). This new initiative resulted from a contract between the State of Florida and Goodson and Associates, a Tallahassee firm with professional expertise in examination development. The first author was the primary ABA consultant for this project, which eventually led to an early task list (developed in 1978 and updated in 1983) and an item pool generated by a number of doctoral-level behavior analysts in Florida, including Nate Azrin, Bill Wolking, and Jack Sandler, among others. There were no strict eligibility requirements for taking the examination; candidates could qualify via a workshop or a self-study program in ABA.

Following pilot examinations given around the state, the first professionally developed examination administration was delivered in 1983. At that time, the examination included 59 free-response and 95 multiple-choice items. The free-response items were manually scored by volunteer CBAs, working under secure conditions over the course of several days. In 1991, the free-response items were eliminated due to concerns about subjectivity of scoring and an increasing volume of candidates making the grading process too time consuming and expensive (Starin, Hemingway, & Hartsfield, 1993). Multiple-choice items were developed to cover the same content that the free response items had assessed.

Jerry Shook was hired as the Senior Behavior Analyst by the Florida Developmental Services Program Office in 1984, and until 1990 he directed what became known as the Florida Behavior Analysis Certification Program. In 1986, the Florida Department of Health and Rehabilitative Services contracted with the Department of Professional Regulation (DPR) to provide proper examination development and administration services. DPR psychometrician Fae Hartsfield (later Mellichamp) coordinated the

² A *certificate* program differs from *certification* in that the former is an assessment of a learner's performance following a specific training experience and the latter indicates that an individual has met more extensive eligibility requirements (e.g., degree, coursework, supervised experience) and passed a psychometrically sound examination.

program for most of the time it was managed by that agency. Steve Starin directed the Florida program from 1990 to 1993. Fae Hartsfield oversaw the development of the First Edition Task List, which was published in 1994. At the same time, new eligibility requirements were introduced for the CBA credential, eliminating the self-study option and establishing the academic requirement as a bachelor's degree and 45 h of behavior-analytic coursework. The job analysis study for the First Edition Task List paved the way for the subsequent development of certification at both the bachelors (Certified Associate Behavior Analyst; CABA) and masters (CBA) levels. The CABA examination was administered for the first time in March 1996.

In 1997, DPR transferred examination development responsibilities to the Florida State University Educational Services Program, under the guidance of Dr. Fara Rohani. By this time, Michael Hemingway had assumed the role of the certification program's director (1993–2003). An update to the Task List was completed in 1998, which resulted in the Second Edition Task List.

From its inception, the certification examination was administered in February and August each year. During its operation, the Florida program certified more than 2000 behavior analysts.

The success of the Florida certification program encouraged behavior analysts in other states to advocate for similar credentialing efforts. Given the considerable professional and financial investment already made in Florida, these states asked to use the Florida examination, which necessitated a statutory revision to share it. In 1993, Tom Evans arranged for the first non-Florida administration of the certification examination under the auspices of the Oklahoma Department of Human Services. By the mid-1990s, state programs using the Florida examinations to credential ABA practitioners included California (CalABA), Texas (TxABA), Pennsylvania (Department of Education), New York (NYSABA), and Oklahoma (Department of Human Services). Florida officials realized that the desire of other states to use the Florida examination went well beyond the interests of the state, and they signaled their support for a national professional body to undertake further development of the credentialing program.

The Behavior Analyst Certification Board

Incorporation

Jerry Shook incorporated the Behavior Analyst Certification Board® (BACB®) as a Florida nonprofit corporation on May 5, 1998. The organization planned to offer two behavior analyst certification credentials: the Masters-level Board Certified Behavior Analyst® (BCBA®) and the Bachelors-level Board Certified Assistant Behavior Analyst® (BCaBA®). The initial meeting of the BACB Board of Directors took place on March 16, 1999. The Founding Board of Directors consisted of Jon Bailey (State Associations for Behavior Analysis Representative), Michael Hemingway (State of Florida Appointee), Jim Johnston (Association for Behavior Analysis Appointee, President), Catherine Maurice (Consumer Representative), and Jerry Shook (Secretary/Treasurer and Chief Executive Officer). BACB Attorney Margaret Bloom was also present. The Directors approved bylaws and engaged in other organizational activities.

Financial Support

Many certification programs are funded by a professional association until the programs are self-sustaining. Growing out of a state certification program, however, the BACB had to rely on other sources of initial funding. Jerry Shook provided many of the resources (e.g., office space, phone, computers, professional time, operating funds) during the early years of development; indeed, he took no salary during the organization's first few years. Following a written proposal by Jerry Shook and Randy Keyworth submitted to the Association for Behavior Analysis in 1998 and a subsequent presentation by Jerry Shook, Michael Hemingway, and Fae Mellichamp before its Executive Council, the association contributed \$20,000 in seed money to the project over three years and went on record as officially supporting the BACB. Catherine Maurice contributed an additional \$10,000 in 2001. The Florida Association for Behavior Analysis donated \$2000 as well. Contracts with the State of Florida for certification services from 2000 through 2002 provided additional sources of income to the BACB. Subsequent funding has been generated from fees charged to certificants for examination, renewal, recertification, and other routine certification services.

Transitioning from the Florida Program

Shortly after incorporation, the BACB began negotiations with Charles Kimber, the Florida official with authority over the its certification program, for use of the Florida examinations by the new organization. On January 15, 1999 a formal agreement was executed between the two entities. Along with other provisions, the agreement: (a) provided that the BACB program be based on the successful Florida Behavior Analysis Certification Program, (b) allowed the BACB use of the Florida certification examination item banks and materials for the purpose of certifying individuals outside of Florida, (c) provided for a cooperative examination materials development initiative between the BACB and the Florida program, (d) provided for joint use of cooperatively developed materials, and (e) allowed for the systematic transition of the Florida certification program to the BACB. From 1999 through 2004, Florida partnered with the BACB to develop certification materials and systematically transferred all responsibilities for the Florida program to the BACB. Certificants from the six existing state behavior analyst certification programs began transferring into the BACB in the Fall of 1999, with the final transfer period ending in April of 2005. All six state programs eventually ceased operation and transferred their certificants and credentialing responsibilities to the BACB.

The availability of the Florida examinations permitted the BACB to avoid most of the job analysis and examination development costs normally associated with starting a certification program. In addition to the examination item bank, Florida provided continuing support for the BACB through contracts and other means. For instance, in the Fall of 2001, Florida contracted with the BACB to provide examination administration services for Floridians. Prior to this time, Florida had administered its recent examinations at a single site (Orlando); however, the BACB committed to increase the number of administration sites to three (Tallahassee, Orlando, and Miami). Following the success of the BACB's initial administrations, Florida ceased examining and

certifying new behavior analysts in Florida and turned that responsibility over to the BACB. In May of 2002, the BACB assumed full responsibility for that function and ceased credentialing new certificants into the Florida Program. By 2004, Florida granted the BACB sole ownership of the item bank and all other examination materials, transferred all remaining Florida certificants (more than 300) to the BACB, and terminated the Florida Behavior Analysis Certification Program.

Examination and Availability

Administration of examinations to thousands of candidates around the world during multiple testing windows requires a large pool of test items. From the early days of the Florida program, prospective items were first drafted by certificants who had participated in a training program for this task. These draft items were then reviewed and revised by other subject matter experts. As is standard practice with this type of examination, new questions were included on an unscored or pilot basis on actual exams and had to survive item analysis procedures before they were added to the item pool. Additional details about past and ongoing examination development and maintenance practices are described in Johnston, Mellichamp, Shook, and Carr (2014).

For the first five years of examination administration (Spring 2000 through Spring 2005), BACB examinations were given in paper-and-pencil format and were administered in the fall and spring, as well as in conjunction with the annual ABAI convention. During this period, Professional Testing Corporation (PTC) of New York conducted all non-Florida administrations and Professional Testing, Inc. (PTI) conducted Florida administrations. Through PTC, the BACB administered the exams in 17 non-Florida locations. Beginning in Fall of 2005, exams were converted to computer-based format, and administration activities were assumed by Pearson VUE in their worldwide network of standardized high-security test sites. The examinations are currently available through Pearson VUE at approximately 250 US and 150 non-US sites.

Job Analyses and Task Lists

The Third Edition Task List was developed through a contract between the BACB and PTI in 2002 under the guidance of Fae Mellichamp. Following the completion of the Third Edition Task List in the summer of 2002, Florida ceased providing funding for the remaining components of developing the Third Edition Examination item bank, and that function was transferred to the BACB. Early in 2003, the BACB moved the examination development contract from Florida State University to PTI. The new examination instruments and the increased coursework requirements to qualify for examination – from 180 to 225 instructional hours for the BCBA credential and from 90 to 125 h for the BCaBA credential – resulting from the 2002 job analysis went into effect with the Fall 2005 administrations. Increased experience requirements to qualify for examination were developed by the BACB, and their phase-in began in 2005.

The BACB began the job analysis process for the Fourth Edition Task List in early 2009 and the Board of Directors approved the new task list at its May 2010 meeting. The Directors also approved an increase in educational standards and coursework requirements to qualify for examination from 225 to 270 h for the BCBA credential and from 135 to 180 h for the BCaBA credential. In addition, the Board of Directors

voted to require a freestanding 45-h ethics course as part of the 270 instructional hours required for the BCBA credential. The first examinations under the Fourth Edition Task List were delivered in February 2015.

The BACB began the job analysis process for the Fifth Edition Task List in early 2015 and the Board of Directors approved the new task in June 2016. In December of 2016, the Board of Directors approved an increase in educational standards and coursework requirements to qualify for examination from 270 to 315 h for the BCBA credential and from 180 to 225 h for the BCaBA credential; these increases included additional course content in behaviorism and organizational behavior management. The first examinations under the Fifth Edition Task List will be delivered in early 2022.

Ethics and Discipline

Mature professions publish codes of conduct and operate mechanisms to enforce ethical conduct of its practitioners. The first element of this process for behavior analysis was the BACB's adoption (in May of 2001) of the *BACB Guidelines for Responsible Conduct for Behavior Analysts* (Conduct Guidelines), which had originally been developed specifically for behavior analysts (at the request of ABAI) by John Jacobson. He had first reviewed the codes of ethics of several professions and then conducted two surveys of senior behavior analysts on the preliminary documents he developed. The Conduct Guidelines served as a reference for behavior analysts, employers, and consumers in determining appropriate solutions for ethical and professional dilemmas. The Conduct Guidelines were later revised by workgroups chaired by Jon Bailey in 2004 and 2010.

The Conduct Guidelines were initially advisory in nature in that compliance was neither monitored nor enforced with sanctions for violations. Their coverage was intentionally broad and inclusive. Beginning in 1999, the BACB began publishing numerous iterations of its disciplinary standards (later the *Professional Disciplinary and Ethical Standards*). Compared to the Conduct Guidelines, the Disciplinary Standards were a more constrained and legally based set of rules that served as the basis for disciplinary action. The range of activities against which the BACB took disciplinary action gradually increased across versions of the Disciplinary Standards until the 2010 version at which point the Conduct Guidelines and Disciplinary Standards were formally linked. This resulted in the BACB now taking disciplinary action against its certificants who were found to have engaged in malpractice, gross or repeated misconduct, among other activities. The latest iteration in the development of BACB ethics/disciplinary documents, effective January 2016, was the *Professional and Ethical Compliance Code for Behavior Analysts*, which combined and extended the Conduct Guidelines and Disciplinary Standards into a single, fully enforceable code of ethics.

International Development

Although the BACB was initially established as a national organization in the US, early interest in other countries moved the BACB into an international role soon after it was founded. The foundation of ABA technology in a well-established science meant that

practitioners interested in the BACB credentials could meet existing standards to take examinations and then use the credential in whatever manner suited their local circumstances.

Prior to the Fall of 2005, qualified candidates had to travel to the US to take the exam, although since then it was made available worldwide through the Pearson VUE network. In 2009, the European Association for Behavior Analysis endorsed BACB certification and pledged to work with the BACB to increase the recognition of BACB certification in Europe. The BACB has had a Director from outside the US since 2004 and in 2015 increased the number of international representatives to the Board from 1 to 2 (out of 11 directors). The BACB offered the first translated examinations in January 2013: BCBA (Spanish) and BCaBA (Spanish, Chinese). By the end of 2016, the BACB had expanded its translation offerings to Hebrew, Italian, Brazilian Portuguese, and Korean (BCBA, BCaBA). The BACB recently announced another expansion of translations so that by 2020 both levels of its examinations would be available in additional languages: Chinese, Polish, Japanese, French, Arabic, and Hindi (Behavior Analyst Certification Board, 2015). To support these translation efforts, the BACB facilitated the development of numerous non-English lexicons of behavior analysis terms (Behavior Analyst Certification Board, 2017a).

Accreditation by the National Commission for Certifying Agencies

The National Commission for Certifying Agencies (NCCA) was established in 1987 as the accreditation arm of the Institute for Credentialing Excellence (ICE). NCCA's mission is to ensure the health, welfare, and safety of the public by providing accreditation services to certification programs that assess professional competence. The NCCA accomplishes this mission by promulgating the *Standards for the Accreditation of Certification Programs* (Institute for Credentialing Excellence, 2017), evaluating program compliance with its standards, recognizing programs that have demonstrated compliance, and serving as a resource on quality certification. Organizations that achieve NCCA Accreditation of its certification programs have demonstrated a valid and reliable process for development, implementation, maintenance, and governance of their certification programs. Although specific to certification programs, the NCCA Standards are consistent with the *Standards for Educational and Psychological Testing* (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014). In 2007, the BACB applied for and was awarded NCCA accreditation of its BCBA and BCaBA certification programs. The BACB successfully applied for reaccreditation in 2012. The policies and procedures the BACB has used to develop its examinations, eligibility standards, task list, and ethics system are all based on NCCA requirements.

US State Licensure of Behavior Analysts

Certification and licensure are fundamentally similar forms of professional credentialing. The basic procedures underlying determination of standards and examination content are the same for both approaches. The major difference between them lies in the nature of the control over the credentialing process and the legal options for

credentialed practitioners. In the case of certification, the credentialing effort is customarily managed within the profession (e.g., the BACB), whereas licensure is established by governmental statute and implemented by a state regulatory board. As a result, certification is technically a voluntary credential in that there is usually no statutory mechanism preventing those not certified from practicing. On the other hand, because of the statutory basis of licensure, use of the professional title or even the nature of professional practice is controlled by law. Depending on the statute, use of the title or specified professional activities may be limited to those holding the license (Green & Johnston, 2009a).

Although the topic was raised early in the profession's development (e.g., Alessi, 1979; Michael, 1972), there was relatively little interest in licensure among ABA professionals until the past decade. Instead, the predominant focus in the practitioner community was on building support for the BACB credential and integrating it into state and private service-delivery systems, as well as state statutes and regulations. At this point in the development of the certification credential, most states had too small a cohort of BACB certificants to mount the kind of political effort required to secure a licensure statute.

Some of the more recent events that led to the promotion of licensure of behavior analysts was the formation of the ABAI Practice Board, which made licensure one of its primary activities (Dorsey, Weinberg, Zane, & Guidi, 2009), and the promulgation of an ABAI model licensure act (Miltenberger, 2010). However, ABAI's multifaceted effort to encourage licensure of ABA practitioners as a preferred credential had some unintended side effects. As one example, members of ABAI's Practice Board advocated for licensure based on the ABAI model with the Connecticut legislature (instead of the BCBA credential) and contacted a health plan within the state to question the appropriateness of the BCBA credential (calaba.org/alamo.shtm). These activities were not coordinated with Connecticut's state behavior analysis association and were in direct opposition to their preferences and plans. Conflicts such as these led to a public meeting at the Alamo prior to ABAI's 2010 annual convention in San Antonio, TX (Johnston, 2011). Representatives from multiple state behavior analysis associations aired grievances about policy-related interference from the ABAI Practice Board, specifically in its promotion of the ABAI model licensure act. These pressures, along with concerns from the experimental community about ABAI's increasing involvement in practitioner-related issues, led the ABAI Executive Council to withdraw the organization from active promotion of licensure in 2011 (Members of the Executive Council, 2011).

In addition to ABAI's efforts in support of licensure, vigorous and ongoing efforts by Autism Speaks (2017) to establish insurance coverage for ABA for individuals on the autism spectrum was a powerful driver for licensing ABA professionals in many states. To date, 45 states have passed such legislation. In multiple states, behavior analyst licensure systems were developed as companions to or embedded within autism insurance legislation. The link between these two separate legislative efforts (licensure and funding) was the insistence by some health plans to only reimburse licensed practitioners. States with autism insurance laws but no licensure for behavior analysts could not counter this health-plan requirement. Thus, some autism insurance legislative initiatives facilitated, either concurrently or subsequently, the passage of laws to licensure behavior analysts in those states.

BACB certification was designed to eventually be used as the basis for licensure. The BACB developed a model licensing act in 2009 (revised in 2012) to encourage those states committed to a licensing initiative to incorporate language making BACB certification a prerequisite for licensure applicants (Behavior Analyst Certification Board, 2017b). Because certification involves the same components and meets the same standards as licensure, the plan was to facilitate the development of statutes that recognized certification as the primary if not the sole requirement in licensing programs. This approach would thereby allow the profession to maintain control over the standards and procedures for vetting practitioners. Another benefit of this approach was that licensure statutes would result in relatively little fiscal impact on state governments, thus providing a cost-effective means of assuring consumer protection. In addition, reliance on BACB standards by licensure boards would facilitate the mobility of practitioners across states.

As of this writing, 26 states have passed licensure statutes in which there is a pathway for BACB certificants to qualify for licensure. This foundation has not always assured that the resulting licensing regulations and procedures are entirely satisfactory, however. In some states, for example, the statute placed the ABA licensure process under an existing psychology regulatory board, which allowed it to control ABA licensure rules and procedures. These situations have occasionally been problematic. For example, Arizona's psychology board, on which behavior analysts had no representation, instituted certain idiosyncratic requirements around supervised experience against the wishes of the behavior-analytic community. Consequently, the growth of licensed behavior analyst was restricted for several years until the rules were changed. Still other problems have arisen in states with licensing statutes that included idiosyncratic standards not based on those of BACB. For example, New York's licensure statute limits the practice of ABA to individuals with autism and related disabilities (Association of Professional Behavior Analysts, 2017).

It is unknown when all 50 US states will license ABA practitioners. However, analysis of other professions suggests it may not occur soon. Consider the example of occupational therapy. This profession shares some topographical similarities with ABA in that its terminal degree for practice is a master's degree, its credentialing standards and examinations are provided by an organization with NCCA-accredited certification programs (National Board for Certification in Occupational Therapy; NBCOT), and state licensure generally relies upon NBCOT's standards (National Board for Certification in Occupational Therapy, 2017). The first states to license occupational therapists were Florida and New York. Although these first licensure statutes were passed in 1975, it would take another 40 years until Hawaii became the 50th state to license occupational therapists. Similarly, the first speech–language pathology licensure board was authorized in 1969 and it was not until 43 years later in 2012 that all 50 states licensed the profession (Boada & Crowe, 2012). Behavior analysts have had licensure for 8 years (since 2009) and much has happened in that time. However, as evidenced by other professions, progress slows and it may take some time before licensure exists in all 50 states. Reasons for this slow progress include state professional associations that lack the resources to pursue licensure and states that sufficiently recognize and/or fund members of a profession without licensure such that the motivation to pursue it is weak.

Licensure statutes have not yet been enacted in almost half of states. Even in the states that have ABA licensure statutes, the regulatory details that control the features of

the credentialing process are either likely to be revised or have not yet been finalized. The state associations representing other professions are likely to continue to offer opposition to these initiatives, and the ABA interests in each state will continue to become more effective in advocating for the needs of their constituents. The primary reason for opposition from other professions (e.g., psychology, speech-language pathology) has been the concern that the scope of ABA practice impinges on their own. In addition, the differences in the features of licensure from state to state will mean that the portability of ABA licensure credentials will be a significant issue for many practitioners, especially in states whose licensure requirements depart from BACB standards. States have not yet begun to address the matter of reciprocity, but it remains a significant problem for other professions that have fallen short of their desire to establish consistent nationwide credentials in the face of competing interests.

Conclusion

The final chapter of ABA credentialing is still in progress. The transition from certification credentials being solely administered by a professional entity (the BACB) to state-administered licensure linked to certification standards will take some years to complete, and many challenges will undoubtedly need to be addressed along the way (Green & Johnston, 2009b). However, it is now an appropriate time to reflect on the history and evolution of our profession's efforts to credential behavior analysts.

Three of the earliest credentialing initiatives – Minnesota's certification program and Florida's certificate and certification programs – were similar in that they were designed to identify individuals who had some degree of documented experience in behavior analysis for the purpose of working within a state developmental disability system. Minnesota's system was remarkably well formed for the time in that it offered credentials at multiple seniority levels and established certification by an examination based on the results of a job analysis. The Florida certificate program was quite limited in that it only involved a workshop and subsequent written examination. However, the certification program into which it evolved was the first credentialing initiative to incorporate a number of "best practice" elements from the credentialing industry (Institute for Credentialing Excellence, 2017). These included task lists based on job analysis studies, psychometrically sound examinations, standardized examination administration, and examination passing-score studies involving subject matter experts.

The certification programs offered by the Association for Behavior Analysis and the BACB were all broader in scope than the earlier initiatives because they were designed to be offered to behavior analysts at the national level (and later internationally for the BACB). Although the Association for Behavior Analysis certification program never fully launched, it offered a valuable lesson. Credentialing programs are expensive and effortful to administer and, in order to be legally defensible, must meet accepted standards of the credentialing industry. The BACB's relation to the Florida certification program through Jerry Shook allowed the lessons from the earlier program to be incorporated into the new entity. From the BACB's inception, its certification programs were designed and maintained based on national credentialing standards. Perhaps as a result, its programs were able to evolve across iterations of successfully increasing standards and be joined by a number of important companion functions (e.g., an ethics

code and disciplinary enforcement). Finally, because US licensure systems are based heavily on BACB standards (e.g., behavior analyst licensure currently relies exclusively on BACB examinations), our profession's behavior analyst credentialing programs have finally achieved parity with the practices of programs of other more mature professions.

The development of credentialing has had a powerful impact on the development of the profession of applied behavior analysis. Although the benefits of credentialing that the profession realizes today might have been welcome decades earlier, the history of this initiative, as well as the challenges credentialing has brought, suggests that the profession was not ready to enter this arena any earlier than it did. A future history of ABA will likely show that it is now in the midst of a transition from its formative years to its emergence as a more fully matured and established profession.

Compliance with Ethical Standards

Conflict of Interest The second and third authors are employed by the Behavior Analyst Certification Board, one of the article's main topics.

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