






Behavior Analysis in Venezuela: An Unrecognized Legacy

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Abstract

Several prior publications have described the development of the field of behavior analysis in Latin American countries, such as Brazil, Colombia, and Mexico. Despite there being a similarly strong tradition of behavior analytic training and research in Venezuela, little has been written and disseminated about this history in international outlets. The purpose of this article was to document the history of behavior analysis in Venezuela using historiographic methods and interviewing members of the behavior analytic community in Venezuela. By analyzing and synthesizing these various sources, we describe the historical and cultural context in which behavior analytic laboratories and training programs were established, the influence of international scholars, the work of Venezuelan professors and students highlighting important women, the height of scholarly productivity, and the current state of the field. In this article, we explore the impact of environmental variables, such as the sociopolitical context and funding availability on the behavior analytic training and research in Venezuela.

Keywords Behavior analysis · History · Latin America · Latino · Venezuela

Much work has been published in international journals about behavior analysis in Latin American countries such as Brazil (e.g., Cirino et al., 2012; Ferrari, 2008; Hunziker, 1998), Colombia (e.g., López López et al., 2006), and Mexico (e.g., Escobar, 2016). Despite there being a similar strong tradition of behavior-analytic training and research in Venezuela, little is known about its history outside the borders of the country. The reasons for this lack of knowledge are complex aspects of the sociopolitical climate of Venezuela over the past 30 years, including but not limited to oppression of student advocacy movements and the

modification of education laws to adapt the educational system to the government (Santalla de Banderali, 2017).

López López et al. (2010) gathered historical aspects of behavior analysis in Ibero America from 1990 to 2010, indicating that Venezuela was among the countries with more behavior-analytic scholarship. López López et al.'s analysis on Venezuela was limited though, and overlapped with the time when some of the most prolific behavior analysts left the country to continue their professional careers. Thus, additional descriptions and analysis of the history of behavior analysis in Venezuela are still warranted.

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One notable aspect of the beginnings of behavior analysis in Venezuela is the participation of women (C. Vargas-Irwin, personal communication, February 6, 2023). In particular, Miriam Dembo and María Teresa Guevara were pioneers of behavior analysis in 1970s, dedicated teachers, active researchers, and administrators, who dutifully preserved the history of the field in Venezuela (Dembo & Guevara, 1992). By 1992, at Universidad Central de Venezuela (UCV [Central University of Venezuela]), there were 14 researchers and professors in behavior analysis, of which 11 of them were women (Dembo & Guevara, 1992, p. 14). A second generation of women in behavior analysis composed of Luisa Angelucci, Eugenia Csoban, and Cristina Vargas-Irwin, who serve as our colleagues, role models, and mentors, emerged during the 1990s.¹ We, the corresponding authors, are Venezuelanas who greatly benefited from the thorough behavior-analytic training in Venezuela, particularly from the women mentioned above. Such training serves as the foundation for our academic endeavors and forms part of our professional and personal identities (or tacts about our learning history). It is from this lens that we carried out this project.

Goals

To trace part of the history of behavior analysis in Venezuela, the field of historiography (i.e., the study of historical writing) served as framework to critically examine sources (i.e. primary, secondary, tertiary) via selection and synthesis (Morris et al., 1990). The purposes of behavior-analytic historiography, as described by Morris et al. (1990) aligned with the goals of the present project, which were to (1) clarify the discipline of behavior analysis in Venezuela; (2) recognize and elevate the legacy of our academic ancestors, especially women; (3) prepare a bibliography and share resources; and (4) promote unity of the discipline by highlighting a shared ancestry and an interconnected international community of teachers and researchers in behavior analysis.

Approach

To accomplish the goals outlined above, we conducted online searches using Google in English for behavior analysis in Latin America and Ibero America. We then focused on online searches in Spanish for behavior analysis

in Venezuela, using keywords such as: “análisis de conducta” (analysis of behavior), “análisis experimental de la conducta” (experimental analysis of behavior), “análisis conductual” (behavior analysis), and consistently including the word “Venezuela” in our search. We selected 40 sources, 19 in Spanish and 21 in English, 33 were articles (30 academic, 3 nonacademic), three books, and three chapters, and one blog. Most sources were secondary and authored by behavior analysts writing about the progression of the field, particularly in Venezuela, whereas fewer were more focused on contextual variables (e.g., sociopolitical and economic variables in the history of Venezuela) and the authors were not behavior analysts (see Morris et al., 1990, p. 139). These sources were organized into a bibliography and made available in a publicly accessible repository (<https://osf.io/b37dv/>).

We complemented the search described above by contacting former professors and classmates to participate in a semi-structured interview, which started with nine questions crafted by the corresponding authors to fulfill the goals of this article (see Table 1). A semi-structured interview allowed us to maintain the focus on the goals outlined above while providing us with the autonomy to explore relevant ideas that emerged during the interview (e.g., relevant literature), which enhanced the understanding of our topic of study (Adeoye-Olatunde & Olenik, 2021). Such methodological flexibility also allowed us to gain a more nuanced understanding of each participant’s perspective (McGrath et al., 2019). The nine questions were emailed to 10 participants; 50% of who identified themselves as women, 80% were our former professors, and 60% currently reside in Venezuela. Participants were offered the choice of responding via email or a Zoom meeting.

Eight participants opted for a Zoom meeting, and two responded via email. The Zoom meetings were recorded solely for the purposes of this article and were deleted at the completion of the project. A substantial portion of the information delineated in this article is derived from responses provided by the interviewees: Angelucci, José E. Burgos, Esther Contreras, Juan C. Correa, Csoban, Giovanni Hernández, Rosa Lacasella, Gustavo Peña Torbay, Vargas-Irwin, and Guillermo Yáber (all listed as co-authors, except Vargas-Irwin, who declined authorship).

The themes for the sections presented below emerged as we analyzed and synthesized the interviews, sources selected, and our recollections and experiences. The interviews and our own recollections are primary sources and predominantly autobiographical; thus, we acknowledge that, “Historiography can never be bias-free, of course, because historiographers can never step out of their own historical and cultural contexts” (Morris et al., 1990, p. 147). When available, we corroborated some of the information among ourselves and with sources. In addition to synthesizing

¹ We were fortunate to have excellent role models. These women taught us about behavioral science and showed us what was possible. Our gratitude for carving this path is infinite.

Table 1 Interview questions

Interview questions	English translation
1. ¿Cómo y cuándo entraron uds. al campo de análisis experimental de la conducta?	When and how did you enter the field of the experimental analysis of behavior?
2. ¿Con quién estudiaron/tutores?	With whom did you study/train?
3. Algunos de sus recuerdos sobresalientes sobre el campo y su experiencia en él	What are some of the most salient memories of the field and your experiences in it?
4. ¿Cuál es su afiliación y/o ocupación actual?	What is your current affiliation and occupation?
5. ¿Cuál es el estado actual del análisis de conducta en Venezuela?	What is the current status of the field of behavior analysis in Venezuela?
6. ¿Cuál es el origen del análisis de conducta en Venezuela?	What is the origin of behavior analysis in Venezuela?
7. ¿Quiénes establecieron los programas de maestría y doctorado y cuándo? En la Universidad Central de Venezuela (UCV) Universidad Simón Bolívar (USB) Otras universidades en Venezuela	Who established the master's and doctoral programs? When? Universidad Central de Venezuela (UCV) Universidad Simón Bolívar (USB) Other universities in Venezuela
8. ¿Quiénes establecieron los laboratorios de investigación en dichos programas?	Who established the research laboratories in those programs?
¿De dónde vinieron los recursos para establecer los laboratorios? Por ejemplo, para las cajas operantes, racks de programación, etc.	Where did the resources for establishing the laboratories come from? For example, the operant boxes, programming racks, etc.
¿Recuerda colaboradores o apoyo de otros países?	Do you remember collaborators or support from other countries?
¿Cuál es el estado actual de estos laboratorios y programas?	What is the current status of these laboratories and training programs?
9. En su opinión, ¿cuál es la característica distintiva del análisis conductual en Venezuela? Aquí nos referimos a enfoques, áreas de desarrollo, perspectivas únicas o peculiares.	In your opinion, what is the distinctive characteristic of behavior analysis in Venezuela? We refer to areas of development or focus, unique or peculiar perspectives.

Table 2 Notable Venezuelan Behavioral Scientists and Their Mentors

Name	Venezuelan Institution Affiliation	Mentors
Luisa Angelucci	UCAB, USB	Gustavo Peña Torbay
José Burgos	UCAB, UCV	Gustavo Peña Torbay, Roberto Ruiz, John Donahoe
Henry Casalta (2004)	UCV	-
Esther Contreras	UCV	-
Juan Carlos Correa	UCAB, USB	Gustavo Peña Torbay, Klaus Jaffé
Eugenia Csoban	UCAB, UCV	Gustavo Peña Torbay
Miriam Dembo (2017)	UCV	-
Giovanni Hernández	UCAB, UCV	Gustavo Peña Torbay, Cristina Vargas, Rocío Vegas
Rosa Lacasella	UCV	Henry Casalta, Miriam Dembo, Gustavo Peña Torbay, Roberto Ruiz, Rodolfo Tarff, Rocío Vegas
Gustavo Peña Torbay	UNA, UCAB, UCV	-
Roberto Ruiz	UCV	-
Cristina Vargas-Irwin	UCAB, UCV	Gustavo Peña Torbay
Rocío Vegas (2016)	UCV	John Donahoe
Guillermo Yáber	UCAB, USB	Miguel Hidalgo, Richard Malott

Abbreviations for academic affiliations are Universidad Católica Andrés Bello (UCAB), Universidad Central de Venezuela (UCV), Universidad Nacional Abierta (UNA), and Universidad Simón Bolívar (USB). The dash under mentors indicates no known mentors and corresponds to the initial generation of Venezuelan behavior analysts who were self-taught. The years in parentheses indicate when these scholars passed away

information about academic programs, laboratories, notable researchers or “great persons” and contextual variables to elucidate a given Zeitgeist (i.e., the spirit of the time; Morris

et al., 1990, p. 141), we outlined the academic genealogy and influences for each interviewee to recognize and elevate the work of our academic ancestors (see Table 2).

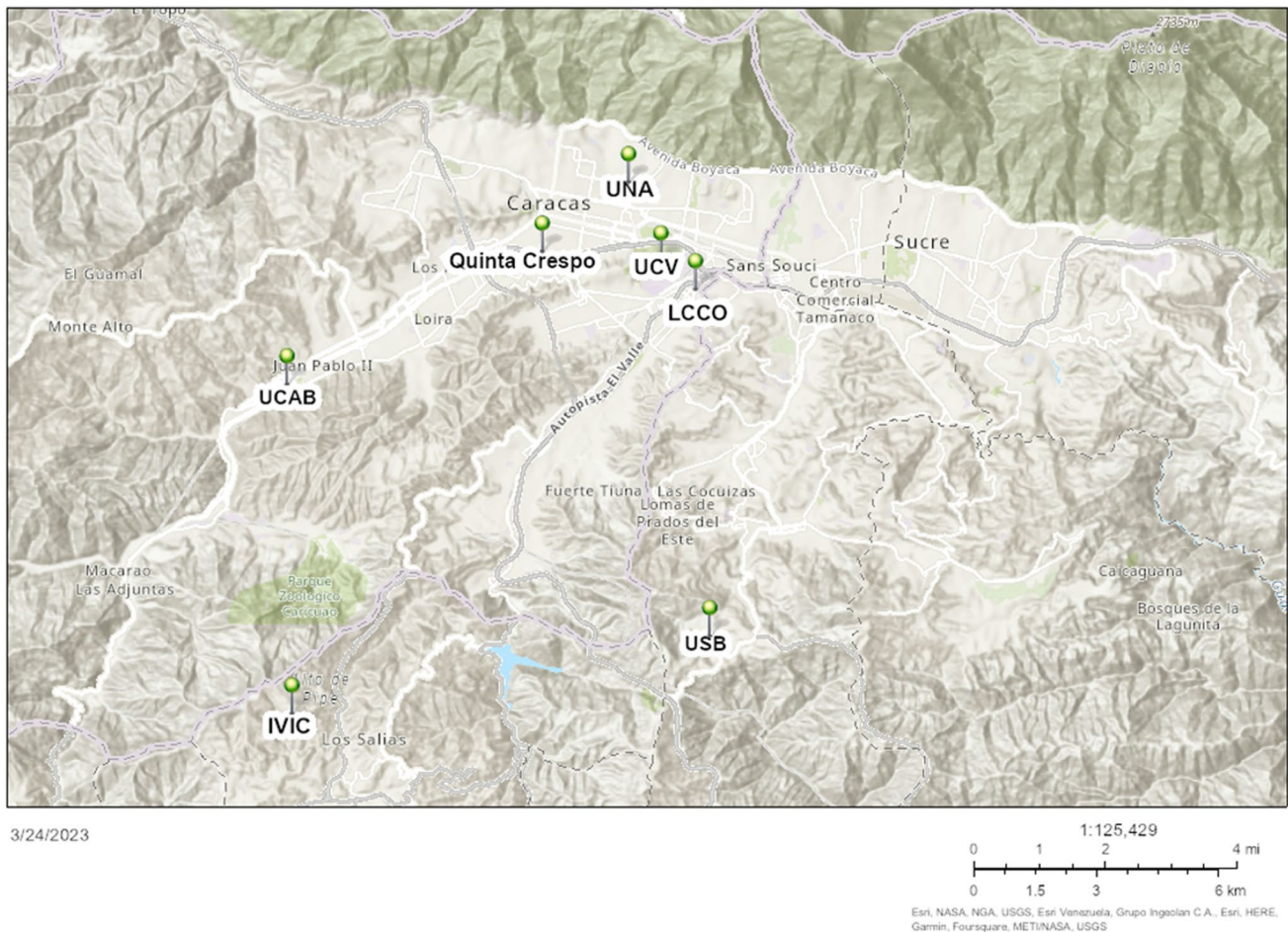


Fig. 1 Map of Caracas. *Note.* This map of Caracas, Venezuela was created with ArcGIS online. The scale is indicated in miles and km as units of measurement on the bottom right. The approximate locations of seven behavior analysis landmarks are indicated with a pin and label, from top (North) to bottom (South): UNA (Universidad Nacional Abierta, Open National University), Quinta Crespo (an outdoor market in Central Caracas), UCV main campus (Universidad

Central de Venezuela, Central National University), LCCO (Laboratorio de Condicionamiento Clásico y Operante, Classical and Operant Conditioning Laboratory), UCAB (Universidad Católica Andrés Bello, Catholic University Andres Bello), USB (Universidad Simón Bolívar, Simón Bolívar University), and IVIC (Instituto Venezolano de Investigaciones Científicas, Venezuelan Instituto of Scientific Research) where the Library Marcel Roche is located

Historical Context and Women Leaders

Considered a branch of psychology, behavior analysis was primarily developed at Universidad Central de Venezuela (UCV [Central University of Venezuela]) in Venezuela. We frequently reference universities in Caracas, the capital of Venezuela, their locations are shown in Fig. 1. The Institute of Psychology and Psychotechnia at UCV was founded in 1949, marking the beginning of academic and scientific Psychology in Venezuela (Dembo & Guevara, 1992; Sánchez & Dembo, 2015). In 1956, the Section of Psychology was established within the College of Philosophy and Letters at UCV. A year later, the School of Psychology was established in the Universidad Católica Andrés Bello (UCAB [Catholic University Andrés Bello]). According to Sánchez and Dembo, the training and research endeavors of this institute

were disrupted by the political upheaval of the country during the years 1956 to 1958 brought by the end of the dictatorship of Marcos Pérez Jiménez.

For 21 years, UCV and UCAB were the only two universities that offered academic training in psychology. By the 1970s, the undergraduate programs offered in both universities followed the “Latin American model,” which entails a 5-year program with basic and professional cycles, a thesis, and practica (Ardila, 1982). The goal of this comprehensive training was a terminal degree called a “Licenciatura”² that equipped graduates for employment, yielding postgraduate

² Although the translation to English for “Licenciatura” is “degree,” we use the term in Spanish to distinguish it from a 4-year program, typical in the United States, that corresponds to a bachelor’s degree.

studies optional. Partly due to this intensive model, along with other motivational and cultural variables of resourcefulness discussed later, “Graduate students from Latin America are quite successful in training programs around the globe” (Gutiérrez & Landeira-Fernández, 2018, p. 11).

With the end of the Pérez Jiménez dictatorship in 1958, Venezuela transitioned into an emergent democracy inextricably linked to economic growth propelled by oil revenues (Rakowski, 2003). The 1960s were a fruitful time for the development of behavior analysis in several Latin American countries (e.g., Cirino et al., 2012; Hunziker, 1998). In the United States, the 1960s included a second wave of the women’s rights movement, which coincided with a slow but higher involvement of women in behavior analysis (Rotta et al., 2021). By the 1970s, Venezuela was one of the wealthiest countries in Latin America, relying on high oil reserves and revenues, which provided economic growth and opportunities in many professional settings. Fueled by the United Nations Women Decade (1975–1985), Venezuelan women from various sectors (e.g., politics, academia) organized and pressured government officials to form the first presidential advisory committee on women in 1974 (Espina & Rakowski, 2002). According to Rakowski, the successful campaign of 1979–1982 to reform the civil code to defend the family as a democratic institution was notable for uniting women from various sectors of society, including professors and students.³ In a context of heavy activism by women and others in support of inclusive policies, universities, especially the UCV, served as hubs for mobilizing the energy toward reform.

Heavy spending by the state followed in the 1970s for the expansion of education, housing, health care, infrastructure, food programs, and a variety of services, decreased poverty, contributed to a growing middle class, and benefitted women (Rakowski, 2003). According to Rakowski, higher presence of women in leadership positions was notable between the 1980s and the 1990s, which may be aligned with how women such as Dembo⁴ and Rocío Vegas assumed positions of leadership in behavior analysis and other influential administrative university positions during that time.

The Era of Plenty, Short But Good

During the 1970s, Caracas was a place rich in arts, innovative scholarship, and academic growth; a hub in South

America for North American and European intellectuals and artists (Brillembourg, n.d.). The abundance of the 1970s likely allowed for B. F. Skinner’s week-long visit to Caracas, hosted by UCAB, in February 1972. Skinner’s visit was a momentous occasion that fueled academics in Venezuela, such as Henry Casalta at UCV, to pursue a career in behavior analysis and train others in the field (Gómez, 2003). The beginnings of behavior analysis in Venezuela were heavily influenced conceptually by Skinner, William N. Schoenfeld, and J. R. Kantor (C. Vargas-Irwin, personal communication, February 6, 2023). Concurrently, a psychoanalytical/psychodynamic approach dominated the intellectual environment of psychology. But that did not deter an enthusiastic group of academics reinforced by government funding, to create laboratories and graduate programs in behavior analysis in the 1970s. The Consejo Nacional de Investigaciones Científicas y Tecnológicas (CONICIT [Council for Scientific and Technological Research]) and Fundación Gran Mariscal Ayacucho (<https://web.fundayacuchove.org>) funded some of the research in behavior analysis and international scholars to visit and serve as guest lecturers (Avalos & Rengifo, 2003). Some international scholars who propelled the development of behavior analysis in Venezuela included Rubén Ardila (Colombia), Emilio Ribes-Iñesta (Mexico), Ramón Bayés, Josep Roca, and Rocío Fernández Ballesteros (Spain).

During the 1980s, Caracas had a vigorous academic environment where university professors, in general, enjoyed social prestige and economic stability. Public and private universities made efforts to guarantee access to education for students from all social strata through scholarship programs, internships, and student loans. This led to a diverse student population, particularly at public universities. Such was the context in which behavior analysis developed and grew in Venezuela. By the late 1980s and early 1990s, a crisis ensued. On February 18, 1983, a day known in Venezuela as Black Friday, government officials recognized the volatility of an economy warranting structural reform (Lander & Fierro, 1996). Venezuela was highly indebted, oil prices declined abruptly, unemployment increased, incomes declined, and strikes arose by public sector workers like educators, nurses, doctors, and transportation and oil workers (Rakowski, 2003). Activism lost momentum with the crisis, and complex socioeconomic and political conflicts persist to this day. The loss of intellectual capital and financial resources in universities led to a decline in academic growth (Hocevar et al., 2017).

Csoban referred to this period as “Una época corta, pero Buena,” that is, a short period, but a good one. As described earlier, during this era of plenty, there was rapid growth in the number of individuals involved in behavior analytic research and an average of 20.6 research projects conducted yearly (Pérez, 1993). Although publishing is a valuable part of the academic endeavor, there were few incentives and

³ The history of women coalitions in Venezuela is longer than what is included in this article. It resulted in a series of commissions, ministerial offices, ministries, and institutes composed by women and dedicated to women issues further described by Rakowski (2003).

⁴ At UCV Dembo founded the School of Psychology, coordinated the master programs in psychology, directed the del Psychology Institute, and coordinated the doctoral program in psychology (Santoro et al., 2017).

support for professors to engage in this labor-intensive task, except when applying for a promotion. Unfortunately, the rise of behavior analysis was quickly followed by a fall that resulted in many academics leaving the country and the closure of laboratories.

Universities, Laboratories, and Graduate Programs

During the economic height of the 1970s through the mid-1990s, the three most prominent universities in Caracas, UCV, UCAB, and Universidad Simón Bolívar (USB) had a strong core of faculty training students and conducting research in behavior analysis. At UCV, three women, Vegas, Lacasella, and Contreras, led the most prolific laboratories in basic and applied behavior analysis (ABA). At UCAB, Peña was the main contributor to the training of students in behavior analysis until his retirement in 2022. He established an interdisciplinary team of behavior analysts, biochemists, and experts in quantitative analysis who explored questions within behavioral neuropharmacology using methods such as brain lesions and infusions. At the USB, Yáber and Elizabeth Valarino, among others, worked diligently for psychology to be viewed and accepted as a scientific discipline.

Below, we describe the connection between laboratories, graduate programs, and peer-reviewed journals that emerged from universities. Many publications by our former professors and classmates are in these national journals. A partial record of the works produced by the graduate programs at UCV was compiled by Dembo and Guevara (1992, pp. 16–29). Conference presentations, theses, and national and international publications were included in that record.

Universidad Central de Venezuela (Central University of Venezuela)

Established in 1721, the UCV has the longest tradition and had the highest productivity in behavior analysis in Venezuela. The interest in behavior analysis started taking shape in the early 1970s when Casalta built a “minilab” with operant chambers constructed with cardboard and manual dispensers to train rats and pigeons with the purpose of teaching basic behavioral principles to undergraduate students. Later on, two laboratories were created, one dedicated to basic and the other to applied research.

Laboratory of Classical and Operant Conditioning Casalta and others began to procure funding for a more robust and active laboratory than the minilab. The professional relationship between Casalta and Ribes facilitated the interaction with U.S.-based behavior analysts who supported the establishment of the laboratory. In 1974, William N. Schoenfeld

and Brett K. Cole from Queens College of the City University of New York, visited Mexico to help Ribes set up an operant conditioning laboratory in Coayacán (Ribes, 1996). According to Ribes, during this visit, Schoenfeld and Cole met Edmundo Chirinos and Roberto Ruiz, professors, and administrators from UCV, and committed to setting up a similar laboratory at UCV. As a result, the Laboratorio de Condicionamiento Clásico y Operante (LCCO [Laboratory of Classical and Operant Conditioning]) was established in 1976 in the neighborhood of Los Chaguaramos, near the main campus of UCV (see Fig. 1).

The LCCO was a center for institutional and intellectual development in behavior analysis in Venezuela. The laboratory was a space for teaching and conducting research (Dembo & Guevara, 1992). Faculty at the UCV were fortunate to have ongoing technical support from Schoenfeld, Cole, and Daniel Sussman, who also trained Vegas and Judith Weffer to program the solid-state relay racks that controlled the operant chambers (Ribes, 1996). The founders of the LCCO were Dembo, Julia Penfold, and Ruiz, affiliated with the area of psychometry in the School of Psychology, and Rodolfo Tarff, Contreras, and Elsa Ritter, affiliated with the Clinical Psychology program. Funding allowed the Institute of Psychology to hire Vegas and Burgos as full-time and Peña as part-time researchers, and two full-time technicians to care for the animals.

White Carneau pigeons were the preferred research subjects of Casalta. These were later replaced with locally sourced and much smaller homing pigeons purchased at the biggest farmers’ market in Caracas, Quinta Crespo (see Fig. 1). Such change in pigeon species invoked creativity in the faculty to adjust the nonmodular equipment originally arranged to accommodate the larger size of the Carneau. The LCCO housed a variety of research areas, including behavioral pharmacology, led by Peña, Penfold, and Tarff, and behavioral medicine, led by Contreras and Ritter.

Dembo and Guevara’s (1992) compilation of behavior-analytic work at UCV from 1978–1991 shows that areas of research were basic learning processes (e.g., classical conditioning), probability of responding, stability criteria, stimulus control, aversive conditioning, self-control, child behavior, preschool instruction, parent training, and ABA for teachers (see pp. 35–78). There was a hiatus in the LCCO during the early 1990s. In 1995, after completing her doctoral training under the mentorship of John Donahoe at the University of Massachusetts at Amherst, Vegas returned as director of the LCCO. Hernández and Vargas-Irwin, faculty at the LCCO, dusted, repaired, and started running the operant laboratory again with rats and pigeons. The LCCO became the hub for research across universities as undergraduates from UCAB and UCV conducted their thesis projects here, as well as students from UCV and USB. For example, corresponding authors Mirari Elcoro and Corina

Jimenez-Gomez undergraduate students at UCAB, conducted their required undergraduate theses at LCCO with Vargas-Irwin as their advisor and Luisa Angelucci, a UCV graduate, completed her undergraduate and graduate thesis under the mentorship of Peña (2000–2001 respectively). During this time, graduate students and professors were funding (out of their own pockets) the research, including animals, food, veterinary care, and facility cleaning, rendering the laboratory unsustainable.

Until its closure in 2009, LCCO remained the hub of intellectual and scholarly work in behavior analysis in Venezuela. By 2009, students from the master's programs completed 38 theses: 15 in LCCO, 7 in the Center for Child Development, 2 developed conceptual issues topics, and 14 were conducted in other professional settings (e.g., organizational). Twenty of the 38 theses were supervised and advised by women behavior analysts (Mora et al., 2009). Laboratories at other universities described later were considered hybrid, that is, not as centered in behavior analysis, but rather incorporating other disciplines, such as physiology, pharmacology, and medicine, into the study of behavior.

Graduate Programs With the LCCO and the work of Ruiz, Penfold, Casalta, Dembo, and Tarff, the master's program in the experimental analysis of behavior (EAB) was created in 1976. Guillermo Pérez Enciso, one of several intellectuals and academics who fled Franco's dictatorship in Spain (1939–1975), served as the first director of the program. The following year, the Psychology Institute at UCV was restructured into three departments: applied research, basic research, and neuropsychology. The master's degree in behavior analysis and doctoral degree (with emphasis in behavior analysis) in psychology were housed in the basic research department, which focused on the study of human and nonhuman animal learning. The doctoral degree in psychology had three areas of emphasis all led by women; behavior analysis, was directed by Dembo, social psychology, by Maritza Montero, and human development, by Ligia Sánchez.

In 1981, with the creation of the Center for Child Development (described below), the program became a master's in behavior analysis to better incorporate ABA. Students could then select a track in EAB or ABA, and the diploma received was a master's degree in psychology with a specialization in behavior analysis (Mora et al., 2009). In 1989, the first and only doctoral-level training in behavior analysis in Venezuela was established. Advisors customized research experiences and elective courses based on the student's interests. The program required comprehensive knowledge of conceptual issues, basic, and applied research (Dembo & Guevara, 1992).

Center for Child Development In 1979–1980, faculty from the UCV traveled to the University of Kansas to learn about ABA. With the support of Sidney Bijou from the University

of Arizona, and Barbara Etzel and Judy LeBlanc from the University of Kansas, the Center for Child Development (CCD) was established in 1981. Professors Doris de Villalba, Guevara, and Thaís Navarrete served as instructors and researchers. Later, Ana Lisett Rangel and Lacasella joined the center. The research focused on topics of complex behavior, such as creativity and self-control, as well as other ABA work with children who attended the experimental classroom.

Dembo and Guevara (2001) also advanced the conceptual issues in behavior analysis by examining parallels between behavior analysis and developmental psychology. In 2000, they published *Aportes a la Psicología del Comportamiento Infantil y Educación Preescolar* (Contributions to Behavioral Child Psychology and Preschool Education), which compiled much of the work from the CCD and the masters in behavior analysis at UCV. After 26 years of continuous scholarly activity, the CCD at the UCV closed. Some of the work from the LCCO and the CCD also appeared in *Revista Psicología* (Psychology Journal), a peer-reviewed journal created in 1974 to disseminate research conducted at the UCV. At present, the index for this journal is available here: http://saber.ucv.ve/ojs/index.php/rev_ps/index

Universidad Católica Andrés Bello (Catholic University Andrés Bello)

A private institution founded by Jesuit priests in 1953 in the neighborhood of Antímano in Caracas (see Fig. 1). From 1957 through 1976, a humanistic environment prevailed in the College of Humanities and Education, likely because Jesuit priests served as department chairs for psychology (Gómez, 2003). The study of behavior using scientific methods was perceived as an *anomaly* or a form of *rebellion*, and not endorsed by administrators. Later changes in leadership brought changes to the curriculum, with an emphasis on psychology as a science. Peña, serving as department chair starting in 1999, emphasized psychology as a science, and the influence of behavior analysis in the curriculum gained strength. For example, the course in experimental psychology consisted of a lecture and three laboratory components: animal behavior, which included a research project with rats and operant chambers; observation, where coding techniques from non-human and human animal research were taught and practiced; and perception, where students engaged in research involving use and data collection with a tachistoscope (i.e., apparatus to expose individuals to visual stimuli for varying times, used to study perception and learning processes).

There were no graduate programs in behavior analysis at the UCAB. A master's degree in research methodology

was established in the early 2000s, of which Correa is the first graduate. Later, in 2005, the doctoral degree in psychology was founded with Peña and Burgos as influential instructors. The research conducted was partially funded by centers such as Consejo de Desarrollo Científico y Humanístico (Council of Scientific and Humanistic Development), created in 1993 (Angelucci, 2017). In 1994, the journal *Analogías del Comportamiento* (Analogies of Behavior) was established at UCAB to disseminate the work conducted at Centro de Investigación del Comportamiento (Center for Behavioral Research) and the Department of Psychology at UCAB. Two of Skinner's presentations during his visit to UCAB in February 1972 were published in the first issue of *Analogías* (i.e., Skinner, 1994a, 1994b). The archives for this journal are available through the following link: <https://revistasenlinea.saber.ucab.edu.ve/index.php/analogias/issue/archivo>. Peña served as editor from 2003 to 2015.

Centro de Investigación del Comportamiento In 1968, Carlos Pitaluga, professor of experimental psychology at UCAB, and other faculty in the Department of Psychology, set up a small laboratory on the campus. The equipment included a tachistoscope and Gerbrands operant equipment for nonhuman animals. After their retirement, this equipment was stored and unused for years. When Pereira and Peña began teaching experimental psychology, they reestablished the laboratory by refurbishing some equipment. Peña also built elevated and water mazes and other equipment. This laboratory evolved side-by-side with LCCO, at a much smaller scale.

A few years later, with university funds, Peña purchased two Coulbourn operant chambers, one relay rack, and one power station. Several thesis projects were conducted, including those of Burgos, Angelucci, and Csoban. Most of the research conducted in this laboratory was in behavioral pharmacology, placebo effect, and escape-avoidance. Additional influential faculty were Miguel Ángel Gómez (professor of general psychology), Oswaldo Villalobos (professor of philosophy), and Andrés Miñarro (professor of personality psychology).

University funding was scarce and inconsistent. Unlike the laboratory at the UCV, at UCAB, there were no animal care personnel. Peña, Csoban, Vargas-Irwin, and their students were responsible for the care and maintenance of the laboratory. Peña recalls preferring working with rats over pigeons because pigeons have such long lives that they precluded any time off from the laboratory. In fact, at one point, he took the pigeons to his home during a university break to care for them. When Peña moved to administrative roles at the UCAB, his most recent appointment as Provost, there were no new generations of behavior analysts to take over the laboratory, thus it closed.

Universidad Simón Bolívar (Simón Bolívar University)

Located in the Sartenejas Valley in Caracas, USB is a public institution, centered on engineering and sciences, founded in 1967 (see Fig. 1). Yáber, Peña, and Angelucci were crucial proponents of psychology as a science at USB, another institution where psychology was considered part of the humanities. The master's program in psychology was founded in the 1970s with a specialization in cognitive-behavioral psychology (Rodríguez & Sánchez, 1999). This graduate program had a diffuse nucleus of founders, including those in the psychophysiology section of the laboratories. The journal *Comportamiento* (Behavior) was an outlet for the Department of Science and Technology of Behavior at USB, but it is no longer in existence.

Several laboratories at USB housed graduates from UCAB, UCV, and USB pursuing graduate studies involving the study of behavior. One of these laboratories was dedicated to psychology and human behavior, led by Evelyn Canino, where Angelucci and Hernández conducted research. This laboratory began with a strong behavior-analytic influence, specifically within behavioral medicine. Such emphasis later shifted in a staggered manner to a focus on health psychology, which allowed for more flexibility in perspectives. Using biofeedback, some research examined emotional reactivity, specifically identifying predictors of hypertension. Thus, researchers were incorporating physiological measures into the study of behavior. Yáber was a professor at USB and led research on organization behavior management (OBM). Yáber, along with Juan Mancheño are considered the founders of OBM in Venezuela (Malott, 2017; Yáber et al., 2017).

Universidad Nacional Abierta (National Open University)

Established in 1977 in the neighborhood of San Bernardino, the Universidad Nacional Abierta (UNA) is a public institution dedicated to providing affordable and distance education (see Fig. 1). Relative to UCV, UCAB, and USB, the laboratory at the UNA had the shortest time of activity. The first of its kind in Venezuela, the laboratory at UNA was designed by a team of researchers from the United States and included facilities for human and nonhuman research. It was directed by Francisco "Pancho" Pereira, a Colombian psychologist, who also taught experimental psychology at the UCAB.

The laboratory included electroencephalography equipment, a Faraday cage, and Coulbourn operant chambers for rats; the latest technology at the time. Furthermore, there were electromechanical relay cards (see Escobar, 2014a, b; for a history of automated control of behavioral

experiments). Peña learned to program experiments in this laboratory between 1978–1979 from a Venezuelan systems engineer trained in the Netherlands.

The space used for applied behavioral research was a large central room surrounded by small rooms, which allowed researchers to conduct sessions concurrently with several participants. Most of the applied research was conducted by Peña, with children from nearby preschools as participants. Some of the areas of study were skill acquisition, generalization, and token economies. Within a few years of Peña leaving the UNA laboratory and dedicating his time exclusively to UCAB, this laboratory was disbanded, and the equipment for nonhuman animals was left behind. Laws that prohibited taking the equipment out of the premises of public universities, prevented sharing with other institutions. In light of this, Peña tried to purchase the equipment to expand the smaller laboratory at UCAB, but his request was denied and the equipment was transferred to another public university in the city of Valencia, where it, unfortunately, remained unused.

Identity, Culture, and Idiosyncrasies

The majority of the key behavior analysts in Venezuela had an interdisciplinary approach and did not readily self-identify as solely behaviorists. Instead, they emphasized the richness and versatility of their influences as the greatest strength of their training. For example, before delving into behavior analysis, Dembo worked as an industrial/organizational psychologist for the petrochemical company Shell. Also, besides her leading role in behavior analysis, Dembo was also involved in supporting and developing research and growth of the arts at UCV (Medina Marys, 2018). Peña studied medicine and statistics, which gave him skills to incorporate methods such as surgeries to implant cannulas in rat brains with a stereotaxic apparatus borrowed from the Instituto Venezolano de Investigaciones Científicas (IVIC [Venezuelan Institute for Scientific Research]). Such technology was too expensive, so creativity was required when adapting cannulas to these studies. Peña described his approach as autodidactic.

Professionally identified as psychologists, behavior analysts in Venezuela have discovered a conducive environment for assessing and intervening in a wide range of sectors, including clinical and organizational psychology, social sciences, healthcare, and education, through a behavioral lens. For instance, literacy programs and hospital health intervention programs in areas such as oncology and physical rehabilitation were created to promote prosocial behaviors in some communities across Caracas. Unfortunately, there was a lack of social and cultural context for behavior analysis to thrive in Venezuela for the long term, particularly in

applied areas. Behavior analysis was not embraced in spaces occupied by other professions, particularly psychiatry and education, where misconceptions about the field prevailed. Further, reduced government funding for universities led to an erosion of the academic programs, closure of laboratories, professionals shifting to other areas of psychology, and leaving the country.

Some pioneers of behavior analysis in Venezuela mentioned in this article were likely, at least initially, committed to methodological behaviorism as a view of behavioral science (Moore, 2013). For them, a behavioral framework allowed to conceptualize psychology as a natural science. But as some of these teachers and researchers acquired diverse training backgrounds (mentioned above) and were influenced by behavior analysts from various countries, we consider behavior analysis in Venezuela as idiosyncratic and pluralistic. For example, as mentioned earlier, some included biological and ecological sciences in the study of behavior, whereas others addressed community needs in educational settings applying behavior principles and incorporating knowledge from developmental psychology.

Related to being autodidactic, another theme mentioned by all interviewees was *resourcefulness*. Peña referred to such theme as “hacerlo con lo que jai,”⁵ that is, to make do with what you have. It was common for faculty and students to build or repair laboratory equipment or to, as Burgos expressed, “fabricar un aparato bien casero,” that is, to build a very homemade apparatus. Resourcefulness also involved contributing funds to purchase rats and pigeons for experiments, volunteering to drive to the IVIC to purchase and pick up rats, and conducting animal husbandry duties. Several of the interviewees, as well as the corresponding coauthors, recall personally traveling to purchase rats and pigeons, staying late to fix equipment, and learning from each other how to program software and equipment. The lack of resources was mobilizing, not paralyzing. Researchers needed to learn about programming and electronics to be able to repair their own equipment. In addition, researchers needed to learn about data analysis and veterinary science. This was an advantage because, as Hernández said, “somos ‘echaos pa’lante,”⁶ that is, “we are problem solvers.” This resourcefulness influenced how we approached our subsequent training in the United States and conducted work in behavior analysis. The lack of resources has rarely been an impediment, just a call for finding a different path to accomplish the task at hand.

Another noteworthy aspect of the culture of behavior analysis in Venezuela was the passion and love for the

⁵ The term “jai” is a colloquialism to refer to the word “hay.”

⁶ The words “‘echaos” and “pa’lante” are also colloquialisms and contractions. The former is used to refer to the word “echado,” which in this sentence means “moved,” while the former means “forward.”

science demonstrated by professors. Professors' dedication to teaching and scholarship was reflected by being voracious consumers of scientific literature in Spanish and English, sharing information with students formally (e.g., in their lectures) and informally (e.g., during coffee breaks between classes), and highlighting the value of peer-reviewed publications. Professors and students had to drive to the Biblioteca Marcel Roche (Marcel Roche Library) at IVIC, the only library that had journals such as *Journal of the Experimental Analysis of Behavior* and *Journal of Applied Behavior Analysis*, located approximately 20 miles south of Caracas (see Fig. 1). Early in our undergraduate careers, we were not bound by textbooks.

Another recurrent theme is the role of women as important leaders in the field. Women academics in Venezuela have been dynamic; “feminist journalists, femocrats, and academics have kept women’s activities visible through press conferences, educational campaigns, and publication of research results” (Rakowski, 2003, p. 402). Although the political involvement of women leaders in behavior analysis is beyond the scope of the present article, this energetic and mobilizing context in Venezuela was where behavior analysis developed, and women were the key founders who continue to inspire us.

Current Status

The crisis of the 1980s through the 1990s mentioned above brought inefficient and corrupt governments (Lander & Fierro, 1996). A strong discontent set a coup attempt into motion in 1992 led by Hugo Chávez, bringing him into the spotlight and eventually moving him into the presidency from 1999 to 2013. Although appealing to a growing underserved population, Chávez’s campaign and election undermined the efforts by coalitions of women to advance women’s rights as well as funding and support of education (Rakowski, 2003). The crisis preceded this period, so universities and institutions dedicated to science in Venezuela began to deteriorate before Chávez became president of Venezuela in 1999, when the lack of government investment and support became even more accentuated.

The deterioration of universities led to a shortage of younger generations, not only in behavior analysis, to continue the growth of higher education. At UCV, for example, social psychology drastically downsized before behavior analysis when senior faculty members left academia (due to retirement and death). The decline of training programs at UCV is one example of how the continued social, political, and economic crisis has negatively affected higher education institutions in Venezuela (Navarro, 2023). Analyzing the complexity of this crisis and

focusing on public higher education, Navarro (2023) identified a rigid governmental control on media and education, the massive exit of Venezuelans (including a critical loss of faculty and other university employees), extremely low salaries and pensions of university professors (see Taladrid, 2022, for more detail), hyperinflation, declining enrollment of students, among some of the contributing factors to the collapse of higher education in Venezuela.

Although the number of universities offering degrees in psychology has increased from three to over a dozen, none of the newer programs include laboratory or research experiences for students. The interviewees agreed that, at present, behavior analysis in Venezuela is almost nonexistent. Some of the interviewees have left the country. For example, Burgos has been a faculty member at the University of Guadalajara for the past 22 years. Vargas-Irwin moved to Colombia and worked at Konrad Lorenz University, where she founded a laboratory for nonhuman animals to study classical and operant conditioning, and later moved to the United States. Hernández currently works in Canada as a researcher in neuroscience, and uses a behavior-analytic conceptual and methodological approach.

The interviewees who remain in Venezuela have retired or shifted fields. For example, although her undergraduate thesis was on the placebo effect with rats advised by Peña, Angelucci currently teaches community and health psychology, well-being, and leadership at UCAB. Her roots in behavior analysis are evident in her teaching and methodological approaches to research (e.g., single-subject research designs). Csoban shifted toward marketing and currently teaches and conducts research at the Instituto de Estudios Superiores de Administración (IESA [Institute of Higher Education in Administration]). Such shifts reflect adaptation to the changing contingencies, as the behavior of scientists has adapted to pursue opportunities available in the country.

The most optimistic and perhaps most characteristically Venezuelan view of the current status of behavior analysis was provided by Yáber. When asked about the current state of the field in Venezuela, he wrote, “Estado de invernadero. Esperando su resurgimiento como el ave fénix,” that is: “it is in state of hibernation. Awaiting its revival like the phoenix.”

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