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RESEARCH ARTICLE

What's the Big IDEA? A Preliminary Analysis of Behavior Analysts' Self-Reported Training in and Knowledge of Federal Special Education Law

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Abstract

Many behavior analysts currently work in school settings or with individuals who may qualify for educational services through federal special education law. However, it remains unclear what training, if any, behavior analysts receive in this law. Behavior analysts have an ethical responsibility to practice within their scope of competency and in compliance with legal regulations. Thus, it is important to determine whether behavior analysts practicing in the United States are adequately prepared and familiar with federal special education law. The current study consisted of a survey wherein respondents answered questions pertaining to the relevance of federal special education law, their familiarity with core terminology, and the alignment between the law and the *Professional and Ethical Compliance Code for Behavior Analysts* (Behavior Analyst Certification Board, 2016). Respondents' self-report indicates that behavior analysts hold conflicting views on how federal special education law aligns with and influences their role as service providers. As such, practitioners and agencies alike may benefit from explicit clarification of the responsibility Board Certified Behavior Analysts have to seek training in and adhere to federal special education law.

Keywords Behavior analysis · Ethics · Federal special education law · IDEIA

Inspired by the civil rights movement and parent advocacy efforts, the United States began generating and passing laws to protect the rights of individuals with disabilities, such as the Rehabilitation Act (1973) and the Americans With Disabilities Act (1990). In (1971), *PARC v. Commonwealth of Pennsylvania* became the first right-to-education suit and resulted in passing legislation to provide a free, appropriate public education (FAPE) to students with intellectual disabilities. This helped pave the way for the Education for All Handicapped Children Act (P.L. 94-142, 1975). The Education for All Handicapped Children Act guaranteed that, at the time, nearly 4,000,000 students with disabilities would have access to a FAPE (FAPE; Yell, 2016). Later, this law became the Individuals With Disabilities Education Act and was amended to the Individuals With Disabilities Education Improvement Act (IDEIA, 2004); IDEIA provides the basic framework from which educational programs are created for students with disabilities. IDEIA outlines the minimum standards all school systems must meet when educating students with disabilities and offers guidelines for the provision of multidisciplinary early intervention services. During the 2019–2020 school year, 7,300,000 students with disabilities were educated under the protection of IDEIA (National Center for Education Statistics, 2021). Despite the protections offered under federal law, many families must still advocate for their child's inclusion in educational programs or to secure desired educational supports and services (Mueller, 2015).

One landmark protection under IDEIA is that school-aged individuals with disabilities are entitled to a FAPE in the least restrictive environment (LRE), meaning school systems must allocate funding for the education of students with disabilities. Further, school-aged individuals with disabilities should access general education and activities with neurotypical peers to the greatest extent possible as determined by the individualized education program (IEP) team for that individual.

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The IEP team consists of the student, the student's parents or guardians, a certified general education teacher, a certified special education teacher, at least one representative of the school system, a professional trained in interpreting evaluation results (often the student's case manager or a school psychologist), and any other relevant professionals or specialists collaborating to provide educational services to the student (IDEIA 34 C.F.R. § 300.321). Depending on the role of the behavior analyst on the team, they may fall under the category of other relevant professionals. As a team, information on a student's educational performance, evaluations such as measures of academic skills (e.g., literacy, mathematics, school-readiness behaviors), skill deficits, and goals are discussed to determine the LRE within the school building or district as a whole, or the setting where the student can successfully access the services necessary to support their education. For students with behavioral challenges, the setting wherein a behavior intervention plan is likely to be implemented with integrity is also considered. Moreover, any independent evaluation results provided by a behavior analyst to a parent and brought to an IEP team meeting must be taken into consideration (IDEIA 34 C.F.R. § 300.502).

The IEP team is also responsible for using assessment results and documented strengths and weaknesses to develop an IEP for every individual eligible for special education services. An IEP contains measurable, annual goals and must be updated at least each year to document the student's progress. Goals are developed collaboratively between the student, family, and other members of the team. Further, IDEIA requires that, when discussing transition planning, the student be invited to IEP meetings to determine their own goals. However, their attendance is not required (Every Student Succeeds Act, 2015). Of particular relevance to many behavior analysts, the IEP also specifies the supplementary aids and services to be available to the student in the coming academic year; these include many supports that influence behavior intervention plans, such as providing the student with an assigned paraprofessional, environmental modifications, ongoing resources for staff training, and reinforcement systems. IEPs also include information on the use of assistive technology, educational accommodations, and copies of necessary behavior intervention plans. As students approach the end of their education entitlement under IDEIA, school districts are required to develop transition plans for all students with IEPs by age 16, though some states require that the process start earlier. These transition plans outline how skills necessary for independent living, employment, or secondary education will be developed. Transition plans also provide the student and their family with information and resources to support a successful transition from entitlement services to eligibility services (Every Student Succeeds Act, 2015).

Behavior analysts can be valuable members of students' IEP teams. Given their training, behavior analysts can conduct a variety of skill assessments to help identify goals, help students communicate their preference for goals, define measurable goals, and collect and summarize data measuring those goals. Further, behavior analysts have practical teaching skills such as shaping, chaining, writing task analyses, and developing reinforcement systems. All of these skills allow behavior analysts to help educators address and measure progress toward a wide array of IEP goals. Behavior analysts can also help train special educators in these interventions. Under IDEIA, ongoing development and supervision of special educators are required, making behavior analysts a valuable resource in this area (§ 1462). Moreover, behavior analysts can assist students who are achieving academically but who are struggling with appropriate classroom behavior to continue accessing the general education curriculum. With behavior-analytic procedures, appropriate classroom and social behavior can be supported using techniques that other professionals may not be trained in. At the time of this writing, approximately 11.51% of Board Certified Behavior Analysts (BCBAs) currently consider education to be their primary area of professional emphasis (Behavior Analyst Certification Board [BACB], n.d.). Moreover, 72.63% and 5.04% report autism spectrum disorder (ASD) and intellectual and developmental disabilities, respectively, to be their primary area; however, it is unclear what percentage of these BCBAs practice within schools or educational settings regulated by IDEIA. Further, it is possible that some BCBAs working within private clinics may provide services to individuals with IEPs that are not reflected by these data.

For behavior analysts supervising cases in educational settings or with school-aged individuals with disabilities, foundational knowledge of IDEIA and how it affects service provision and the functional behavioral assessment process for school-aged individuals is critical to successful practice. Not only are behavior analysts required to practice within their scope of competency and in compliance with relevant laws per the *Ethics Code for Behavior Analysts* (BACB, 2020), but failure to practice with consideration for IDEIA can result in litigation and poorer quality service provision. For example, a BCBA working in a general education classroom may recommend using extinction procedures to reduce a student's disruptive behaviors. Without knowledge of federal special education law, the BCBA might have the student complete academic work in a self-contained classroom to support the integrity of the extinction treatment without consulting the IEP team. This would be a violation of the student's LRE and could result in litigation against the BCBA and the school system. Given litigation regarding FAPE and LRE disproportionately represents students with ASD, it stands to reason that a foundational knowledge of the federal law regarding special education would be beneficial for behavior analysts working with school-aged individuals diagnosed with ASD (Zirkel, 2011).

With respect to the quality of service provision, a BCBA who does not have a foundational knowledge of IDEIA might not be able to confidently or competently advocate for the student's greater inclusion in relevant school services that might support their IEP goals. For example, a BCBA supervising a student participating in a self-contained school program may not have access to the student's neurotypical peers for a social skills program. School districts often provide after-school clubs and activities that the student could participate in with supports, and participation in these activities would allow the student to develop social skills with peers in the natural environment. However, a BCBA unfamiliar with the law's emphasis on access to general education to the greatest extent possible may not advocate on behalf of this student to participate in these activities and instead implement the social skills program exclusively with the adults working at the student's school. Moreover, the BCBA may not program for or assess generalization of these skills to peer interactions. Additionally, without the BCBA ensuring social reinforcement contingencies are in place, target skills may actually be punished during those generalization probes with peers. Clearly, careful consideration of the federal law can affect the provision and quality of behavior-analytic services, and a lack thereof can result in poorer outcomes for the student. Further, demonstrating understanding of and consideration for the federal law may make the BCBA appear more competent and confident to other IEP team members. In turn, this credibility may foster greater collaboration between the BCBA and other team members.

Despite these concerns, the BACB does not explicitly mandate knowledge of federal special education law through the most recent *Task List* (BACB, 2017) or the *Ethics Code for Behavior Analysts* (BACB, 2020). For BCBAs working in or collaborating with professionals in public school settings, a lack of knowledge of federal special education law could jeopardize ethical and effective service delivery. However, little published work in behavior-analytic journals has discussed the topic of federal special education law. Moreover, as ASD is disproportionately represented in litigation regarding educational programming and determination of the LRE, it remains imperative that BCBAs operate within the confines of the law and can provide rationale pertaining to the law when working with school-aged children with disabilities (Zirkel, 2011).

The purpose of the current study was twofold. First, we sought to gather preliminary information about the number of BCBAs in the United States for whom federal special education law is presumably relevant to their professional work. Second, we sought to understand the extent to which BCBAs report contacting education and training relative to federal special education laws relevant to practice in the United States. It is our opinion that a rudimentary knowledge of the basic components of federal special education law be required and is necessary for BCBAs working with school-aged children. This would ensure services are provided in accordance with the law and support BCBAs' ability to provide competent and confident rationales for their treatment recommendations when collaborating with the IEP team. Gathering data on BCBAs' self-reported training and knowledge with federal special education law, as well as data on BCBAs' current employment, is a necessary preliminary step to determine the extent to which increased training and resources on the law would benefit practicing behavior analysts.

Method

Survey Respondents

Respondents consisted of BCBAs at both the master's and doctoral levels practicing within the United States. An email containing a link to the survey was distributed using the BACB's listserv, which is a paid service; all recipients of the listserv email are registered BCBAs. Additionally, a link to the survey was posted on the professional organization Facebook page for a small private university. No additional inclusion criteria needed to be met. In total, we collected 361 responses. However, respondents were not required to answer all questions in the survey, so the total number of respondents per question varied. We did not calculate the response rate of the survey because the exact number of individuals who received the survey could not be calculated. At the time of data collection, 361 responses represented approximately 1% of the total number of BCBAs in the United States. As such, these data may not necessarily be representative of BCBAs' knowledge of or training in federal special education law as a whole but rather should be considered as preliminary evidence for further investigation into this topic. No exclusionary criteria were developed for respondent data.

Survey

The researchers developed and distributed the survey via Qualtrics. All questions were crafted by the researchers and selected for their relevance to the primary aims of this project. Prior to conducting the survey, a small group of BCBAs and BCBA-Ds (doctoral-level BCBAs) with experience working in school systems piloted the survey and provided feedback to the researchers; these pilot responses are not included in the results in what follows. Respondents received a link to take the survey online. All responses were anonymous.

The survey consisted of two main sections: training in and knowledge of federal special education law and demographic information (Breeman, 2020). Including the optional demographic questions, the survey consisted of a maximum of 31 questions each respondent could answer. However, some questions were only shown contingent on specific responses. Question types were multiple choice (71%, $n = 22$), binary choice (i.e., yes/no; 16%, $n = 5$), Likert scale rating (3%, $n = 1$), and free-text response (10%, $n = 3$). The free-text response questions were as follows:

1. Please explain the situation (a follow-up to "Have you ever worried about proposing or implementing a treatment you felt would be effective due to concerns over federal special education law?").
2. What is your age?
3. Is there anything else you want to communicate with the researchers regarding federal special education training in BCBAs verified course sequences?

Where possible, "other" options were provided with a corresponding free-text option.

Within the section assessing respondents' training in and knowledge of United States federal special education law, survey items assessed (a) prior training in federal special education law; (b) when that training was received (if applicable); (c) the specific techniques used during that training; (d) who is responsible for ensuring the law is upheld within their provision of services; (e) their familiarity with several terms pertaining to federal special education law; (f) how their understanding of federal special education law informs their service provision; (g) the availability of resources on federal special education law in their work setting; (h) the specific resources, or any barriers to such resources, in their work setting (as applicable); (i) settings wherein federal special education law must be upheld; (j) whether abiding by the law ever interferes with their roles and responsibilities as a behavior analyst; (k) the general domains within the *Professional and Ethical Compliance Code for Behavior Analysts* (BACB, 2016) where federal special education law interferes with their practice (if applicable); (l) whether the respondent had ever worried about proposing a treatment due to concerns about federal special education law; and (m) any general domains within the ethical code that are, and are not, well aligned with federal special education law. Please note that this survey was generated and distributed prior to the release of the new *Ethics Code for Behavior Analysts* (BACB, 2020), so all results are outlined with respect to the former code.

Respondents' selections to specific questions prompted the survey to either skip or present additional questions. There were five such opportunities when completing the survey. If respondents indicated that they had not received training in federal special education law, then they skipped all questions pertaining to when they received training and the different components of that training. For those who had received training, different options for what that training consisted of were presented contingent on their selection of when they received training. If respondents indicated that resources were available to them for learning about federal special education law, then a follow-up question to select the specific resources available was shown. If respondents indicated that the law interfered with their professional and ethical responsibilities, then they were given the opportunity to select the general domain where the law interferes with their practice. Respondents who reported no formal training in federal special education law were shown Items j–m to gather data on how practicing behavior analysts perceive or have encountered conflict between the law and their professional and ethical responsibilities. Only respondents who indicated having worried about proposing a treatment due to a potential conflict with federal special education law were presented with the free-text response question asking them to describe the situation.

Demographic questions were voluntary and allowed respondents to indicate (a) age, (b) self-identified race, (c) self-identified gender, (d) number of staff supervisees, (e) number of clients composing their caseload, (f) job title, (g) population(s) served, (h) years of experience working as a credentialed behavior analyst, (i) highest degree obtained, (j) discipline of highest degree obtained, (k) clinical work setting, and (l) whether federal special education law applies to their clinical work setting.

Procedure

Prior to developing the survey, the research team obtained approval from a small private university's institutional review board. The link to the survey was distributed to BACB certificants who had elected to receive solicitation emails from the BACB. The onset of the survey specified to respondents that proceeding with the survey and responding to survey questions constituted consent. Responses were collected from May 15 to July 15, 2020. With the exception of free-text responses, the Qualtrics software automatically compiled and summarized response data per question of the survey.

Coding Free-Text Responses

The researchers developed coding criteria for the question wherein respondents could explain a situation where they experienced concerns about federal special education law potentially conflicting with proposed treatments. Categories were developed after reviewing respondents' verbatim, raw text data responses. These categories reflected the source of

conflict, or what caused the discrepancy between a treatment recommendation and the outcome of the situation, within the respondent's specific scenario. Next, the researchers identified commonalities among responses to finalize these categories. For example, if several responses entailed recommendations for a punishment procedure (though not necessarily the same specific procedure), then we selected "punishment" as a broader category for coding. The final categories included (a) punishment procedures, (b) physical restraint and/or seclusion procedures, (c) setting and/or LRE concerns, (d) acceptability/validity of applied behavior analysis (ABA) within the setting, (e) functional behavior assessments or other behavior assessments, (f) difficulties in accessing treatment resources, and (g) interpersonal-level conflicts. The category of "difficulties in accessing treatment resources" was further broken down into two subcategories, consisting of "money or expenses" and "staff training and time." Similarly, "interpersonal-level conflicts" included subcategories for goals and/or priorities across team members, and expectations or specific roles on the team. A single response could be coded across multiple categories.

"Punishment procedures" and "physical restraint and/or seclusion procedures" were deemed two separate categories based on the responses received for this question. In the scenarios received, punishment procedures were recommended for behavior-reduction plans, whereas physical restraint and/or seclusion procedures were recommended to maintain safety without necessarily functioning as punishers for unsafe behavior. Given their differing roles in the context of a behavior intervention plan and their recommendation rationales, we opted to code them separately. Similarly, the category of "setting and/or LRE concerns" was developed from the verbatim responses generated; sometimes the specific term was included in responses, whereas others more generally indicated a conflict regarding the determination of the LRE. None of the responses received indicated a conflict of determining a FAPE, though that is commonly a determination made in conjunction with the LRE. It is possible that respondents either falsely equated the LRE and FAPE as one consideration or did not know enough about FAPE to parse it out from LRE. Thus, a separate FAPE category was not created for this sample of responses.

Researchers coded a response "punishment procedures" when the respondent outlined an experience where they advocated for the use of a punishment procedure (e.g., use of aversive stimuli, included the phrase "punishment procedure"). The code "physical restraint and/or seclusion procedures" was applied to responses where the respondent advocated for or expressed a necessity to use physical restraint or seclusion to maintain safety. "Setting and/or LRE concerns" was coded for responses where the respondent advocated for a change in the educational or service setting, regardless of whether this change would be to a more or less restrictive environment. Researchers coded a response as "acceptability/validity of ABA within the setting" for responses wherein the respondent expressed that interventions based on the principles of behavior were not regarded as being evidence based, considered common or acceptable practice for the setting, or implemented after being recommended. For responses where respondents advocated for the use of assessments, the researchers coded "functional behavior assessments or other behavior assessments."

Within the category of "difficulties in accessing treatment resources," the researchers coded a response as "money or expenses" if the respondent expressed that the setting could not afford, or was not willing to allocate funds for, the proposed treatment. Conversely, if the respondent expressed that their setting did not allow for adequate staff training and supervision of treatment, the response was coded "staff training and time." If a response provided a vague mention that there would be challenges in acquiring the necessary resources (e.g., "where I work simply doesn't have the resources"), then the response was only coded as "difficulties in accessing treatment resources."

The broader term "interpersonal-level conflicts" was applied to scenarios that involved conflicts among IEP team members, though it is important to note that these were not reflective of social or personal disputes. Under the category of "interpersonal-level conflicts," researchers coded a response as "goals and/or priorities across team members" when the respondent specifically stated that different team members had conflicting goals or different priorities for the client (e.g., the case manager wants to pursue academic skills, whereas the BCBA wants to allocate more educational resources to prevocational and daily living skills). Researchers coded "expectations or specific roles on the team" for examples where respondents expressed being barred from completing relevant clinical tasks due to their specific job title or role on the clinical team (e.g., a certified behavior analyst being termed the "teacher" and therefore not given permission by the IEP team to complete a behavior-analytic assessment).

All statistical analyses were conducted using the Statsmodels Python package (Seabold & Perktold, 2010). For all tests, we used the z test of paired proportions (Sprinthall, 2011), and reports of statistical significance are made after using within-family Bonferroni corrections for multiple comparisons of statistical significance.

Results

Analyses Across All Respondents

Respondent Demographics

Table 1 outlines the basic demographic information provided by respondents. The median age of respondents was 37 years, whereas the average was 40 years (range 24–71 years). The majority of respondents identified as being White (82.0%, $n = 205$) and cisgender women (75.5%, $n = 185$). These demographic data are similar to those of BCBAs and BCBA-Ds as a whole, though this does not mean our data are representative of BCBAs as a whole (i.e., 71.8% White, and 86.2% cisgender women; BACB, 2020). However, 117 (32%) respondents opted to not share this information. Additionally, the majority of respondents who elected to answer held a master's-level degree (81.9%, $n = 203$), with the rest holding a doctoral degree (18.1%, $n = 45$). Respondents most commonly held degrees in behavior analysis (41.9%, $n = 104$), special education (26.2%, $n = 65$), and psychology (15.3%, $n = 38$). Further, most respondents had 0 to 5 (46.2%) or 5 to 10 (35.7%) years of experience practicing ABA.

Most respondents reported working as a behavior analyst (63.9%), clinical director (11.2%), or in a role that was not listed in the survey (14.5%). Public schools (45.2%, $n = 163$), homes (43.8%, $n = 158$), centers or clinics (33.5%, $n = 121$), and private schools (18.6%, $n = 67$) accounted for respondents' work settings (see Table 2). Respondents also reported working primarily with children ages 3 to 17 years diagnosed with disabilities (60.9%, $n = 220$), infants ages 0 to 3 diagnosed with disabilities (28.8%, $n = 104$), and adults with disabilities (26.3%, $n = 95$). Client caseloads varied, often exceeding 20 (36.1%) or falling within the ranges of 0 to 5 (21.9%) or 10 and 15 (16.4%); interestingly, 44.6% of respondents who reported working in public schools indicated having a caseload of more than 20 clients, followed by 41.1% of those who work in private schools, indicating that behavior analysts practicing in school-based settings may be more prone to having large caseloads. Similarly, the number of supervisees overseen by respondents varied, sometimes consisting of more than 10 individuals (32.4%), whereas others supervised 0 (26.3%) or 3 to 5 (16.7%) staff.

Table 1 Basic demographic information of respondents

Demographic characteristic	% (*n*)
Identity by gender ($N = 245$)	
Cisgender woman	75.5 (185)
Cisgender man	10.2 (25)
Prefer to self-describe	7.3 (18)
Prefer not to say	6.9 (17)
Identity by race/ethnicity ($N = 250$)	
White	82.0 (205)
Hispanic, Latino, or Spanish	5.2 (13)
Prefer not to say	4.0 (10)
Prefer to self-describe	2.8 (7)
Asian	2.4 (6)
Black or African American	1.6 (4)
Middle Eastern or North African	1.6 (4)
Native Hawaiian or other Pacific Islander	0.4 (1)
Highest degree ($N = 248$)	
Master's	81.9 (203)
Doctoral	18.1 (45)
Discipline of highest degree ($N = 243$)	
Behavior analysis	41.9 (104)
Special education	26.2 (65)
Psychology	15.3 (38)
Other	8.1 (20)
General education	5.2 (13)
Speech-language pathology	0.8 (2)
Communication disorders	0.4 (1)
Job title/description ($N = 249$)	
Behavior analyst	63.9 (159)
Other (please specify)	14.5 (36)
Clinical director	11.2 (28)
Behavior specialist	4.8 (12)
Classroom teacher	2.8 (7)
School psychologist	1.6 (4)
Case manager	1.2 (3)
Years of experience ($N = 249$)	
0–5	46.2 (115)
6–10	35.7 (89)
16 or more	10.4 (26)
11–15	7.6 (19)

Note. The total number of responses across questions varies within the table because respondents were not required to answer demographic questions. The following answer choices were offered but were not selected by respondents: transgender woman, transgender man, nonbinary, and American Indian or Alaska Native

Knowledge of the Law

A majority of respondents reported that they had received training in federal special education law (72.9%, $n = 253$). Table 3 outlines the training methods respondents reported experiencing. Of those who had received formal training, the exact time of training was almost evenly distributed between during graduate study (36.3%), after graduate study (29.4%), and both during and after graduate study (34.3%). Training that took place during graduate study most commonly included lectures or discussions (23.6%),

Table 2 Description of respondent's clinical responsibilities

Responsibility	Count	%
Populations served		
Children with disabilities (ages 3–17)	220	60.9
Children with disabilities (ages 0–3)	104	28.8
Adults with disabilities (ages 18–21)	95	26.3
Children of typical development	84	23.3
Individuals with brain injury	26	7.2
Other	26	7.2
Location		
Public school	163	45.2
Home-based setting	158	43.8
Center/clinic-based setting	121	33.5
Community-based setting	94	26.0
Private school	67	18.6
Other (please specify)	29	8.0
I do not provide ABA services	24	6.6
Client caseload		
More than 20	99	36.1
0–5	60	21.9
10–15	45	16.4
5–10	43	15.7
15–20	27	9.9
Staff supervision		
More than 10	91	32.4
0	74	26.3
3–5	47	16.7
6–10	46	16.4
1–2	23	8.2

Note. Respondents were able to select all applicable answer choices for the questions about populations served and their location of service provision. *ABA* applied behavior analysis

readings on the topic (21.6%), and independent work (11.2%). For those who received training on federal special education law following graduate study, respondents most commonly indicated that this training consisted of in-service (i.e., on-site professional development and/or training) and on-the-job training (11.9%) and independent reading or research (11.4%). Respondents who received training both during and after graduate study indicated that their training included a combination of lectures or discussions (18.0%), readings (17.7%), and continuing education or in-service opportunities (16.3%).

When asked about resources available to them, respondents most commonly reported relying on an informed coworker (39.6%) and online materials (39.3%). Print materials and professional development opportunities were somewhat common (30.7% each). We did not ask respondents to report their reliance on resources but rather the resources available to them (or the barriers in place)

Table 3 Reported training in federal special education law

Survey item	% (*n*)
Received training	
Yes	72.9 (253)
No	27.1 (94)
When trained	
During grad school	35.3 (94)
Following grad school	28.6 (76)
During and following grad school	36.1 (96)
Methods experienced during grad school	
Professor-led lectures or discussions	31.2 (86)
Course-assigned readings	28.3 (78)
Independent reading	15.2 (42)
Direct training via practicum/supervised field experience	10.1 (28)
Peer-produced presentations/projects	8.7 (24)
Other (please specify)	6.5 (17)
Methods experienced after grad school	
Continuing education/in-service training	30.3 (43)
On-the-job training	30.3 (43)
Independent reading	28.9 (41)
Other (please specify)	10.5 (15)
Methods experienced: those trained during and after	
Professor-led lectures or discussions	16.3 (65)
Course-assigned readings	16.1 (64)
Continuing education/in-service training	14.8 (59)
Independently reading after graduate school	12.8 (51)
On-the-job training	12.1 (48)
Independent reading during graduate school	11.8 (47)
Direct training via practicum/supervised field experience	7.8 (31)
Peer-produced presentations/projects	5.0 (20)
Other (please specify)	3.3 (13)
Resources available to learn	
Informed coworker/designated coworker	39.6 (143)
Online materials (e.g., e-books, websites)	39.3 (142)
Printed materials (e.g., books, flowcharts)	30.7 (111)
Professional development opportunities	30.7 (111)
Other (please specify)	3.9 (14)
Barriers to learning about law	
Professional development opportunities are lacking	24.7 (89)
Lack of training resources	23.3 (84)
Not required by place of employment	22.4 (81)
Lack of time	19.1 (69)
Lack of materials	12.7 (46)
Caseload is too heavy	12.2 (44)
Unclear job responsibilities/duties	9.1 (33)
Other (please specify)	8.3 (30)
Where the law is applicable	
Public school	81.7 (295)
Private School	70.6 (255)
Center/clinic based	53.2 (192)
Community based	50.1 (181)
Home based	47.4 (171)
Other	7.5 (27)

Note. Respondents were able to select all relevant answer choices for the questions about the methods of training experienced, resources currently available to them, barriers to learning about the law, and where federal special education law is applicable

in their current setting. However, of the 253 respondents who indicated they were trained, up to 143 indicated a particular resource was available to them at their place of employment. Conversely, respondents identified a lack of professional development opportunities (24.7%) and a lack of resources (23.3%) as barriers to learning more about federal special education law. Lastly, approximately one in five respondents reported that such knowledge was not required of them (22.4%).

Respondents also rated their familiarity with particular terms relating to federal special education law (see Table 4). Outlined here are the results for some of the more commonly seen terms among individuals working in school settings: FAPE, LRE, IDEIA, and IEP. Many respondents rated themselves as *extremely familiar* (62.5%) or *very familiar* (24.4%) with FAPE. Respondents' familiarity with LRE and IDEIA was similar (75.3% and 21.1%, and 60.1% and 28.8%, respectively). Lastly, IEPs were second only to functional behavior assessments (FBAs) in respondents' ratings of being *extremely familiar* (84.7%) and *very familiar* (13.3%). However, it is important to note that roughly 38% of respondents rated their familiarity with manifestation determination between *moderately familiar* and *not at all familiar*.

Regardless of training, roughly half of respondents indicated that it is their responsibility to ensure that federal special education laws are followed at their workplace (55.1%), whereas another portion indicated that this was another staff member's responsibility (43.5%; see Table 5). The majority responded that federal special education law is applicable in both public (81.7%) and private (70.6%) schools; a large portion also indicated that special education law is applicable in centers or clinics (53.2%), community-based settings (50.1%), and home-based settings (47.4%). Respondents were split on the issue of whether adherence to the law interferes with their role as a behavior analyst, with a narrow majority (57.1%) saying it does not.

Respondents were also asked to identify areas of the *Professional and Ethical Compliance Code for Behavior Analysts* (BACB, 2016) that were well aligned with federal special education law (see Table 6). They commonly reported that the domains of responsibility to clients (36.6%), responsible conduct (34.3%), and assessing behavior (31.9%) were well aligned. However, the assessing-behavior domain was also commonly identified as *not* being well aligned with the law (21.9%). The behavior-change program domain (27.7%) and responsibility-to-behavior-analysis domain (26.3%) were also identified as not being well aligned. These roughly translate to the "Responsibility as a Professional" and "Responsibility in Practice" domains in the new *Ethics Code for Behavior Analysts* (BACB, 2020). Most respondents reported never having worried about recommending a treatment as it pertained to the law (77.9%). Those who had were most frequently concerned when the treatment entailed a punishment procedure (26.3%), a change in the setting or service location (setting and/or LRE concerns; 23.7%),

Table 4 Familiarity with terms

Term	1 *Not at all familiar* % (*n*)	2 % (*n*)	3 *Moderately familiar* % (n)	4 % (*n*)	5 *Extremely familiar* % (*n*)	*M* (*SD*)
Free appropriate public education	2.9 (9)	3.6 (11)	6.5 (20)	24.4 (75)	62.5 (192)	4.4 (0.97)
Least restrictive environment	0.6 (2)	0.0 (0)	2.9 (9)	21.1 (65)	75.3 (232)	4.7 (0.59)
Individuals With Disabilities Education Act	1.3 (4)	1.3 (4)	8.5 (26)	28.8 (88)	60.1 (184)	4.45 (0.81)
Individualized education program	0.0 (0)	0.6 (2)	1.3 (4)	13.3 (41)	84.7 (261)	4.82 (0.46)
Age of eligibility	3.6 (11)	5.8 (18)	12.3 (38)	20.1 (62)	58.1 (179)	4.23 (1.10)
Transition services	3.3 (10)	6.9 (21)	15.4 (47)	30.2 (92)	44.3 (135)	4.05 (1.08)
Zero reject	44.8 (137)	17.6 (54)	11.1 (34)	9.5 (29)	17.0 (52)	2.36 (1.53)
Present levels of academic achievement and functional performance	14.0 (43)	5.5 (17)	12.1 (37)	14.3 (44)	54.1 (166)	3.89 (1.46)
Measurable annual goals	1.9(6)	1.0 (3)	2.9 (9)	15.6 (48)	78.6 (242)	4.68 (0.75)
Special education	1.0 (3)	1.3 (4)	5.5 (17)	20.5 (63)	71.7 (220)	4.61 (0.74)
Related services	3.3 (10)	2.6 (8)	9.2 (28)	22.5 (69)	62.4 (191)	4.38 (0.98)
Supplementary aids and services	5.2 (16)	5.2 (16)	16.0 (49)	21.2 (65)	52.4 (161)	4.10 (1.16)
Extended school year	3.9 (12)	2.0 (6)	7.5 (23)	19.5 (60)	67.1 (206)	4.44 (0.99)
Assistive technology	1.3 (4)	3.9 (12)	8.8 (27)	30.2 (93)	55.8 (172)	4.35 (0.89)
Procedural safeguards	4.9 (14)	7.5 (23)	12.4 (38)	22.5 (69)	52.8 (162)	4.11 (1.17)
Functional behavioral assessment	0.6 (2)	0.0 (0)	0.6 (2)	8.4 (26)	90.3 (278)	4.88 (0.45)
Manifestation determination	14.9 (46)	10.4 (32)	13.3 (41)	19.5 (60)	41.9 (129)	3.63 (1.47)

Table 5 Adherence to the law

Question	Response options	% (*n*)
Who is responsible for ensuring the law is followed?	Myself	55.1 (199)
	A staff member whom I supervise	12.2 (44)
	Another staff member whom I do not supervise (e.g., teacher, paraprofessional, school administrator)	43.5 (157)
	Other (please specify)	14.7 (53)
Does federal special education law influence your decision making?	It does not.	5.8 (21)
	It does, but I am not really sure how or why; I do not make decisions based on my knowledge of the law.	14.7 (53)
	It does, and I make decisions based on my knowledge of the law.	64.3 (232)
Have you ever been worried about recommending a treatment because of the law?	Yes	22.1 (62)
	No	77.9 (218)
Does abiding by the law interfere with your responsibilities as a behavior analyst?	Yes	23.8 (86)
	No	57.1 (206)

Table 6 Alignment of the ethics code with federal special education law

Code	Well aligned	Not well aligned
	% (*n*)	% (*n*)
2.0 Responsibility to clients	36.6 (132)	19.9 (72)
1.0 Responsible conduct	34.3 (124)	15.5 (56)
3.0 Assessing behavior	31.9 (115)	21.9 (79)
4.0 Behavior-change programs	25.2 (91)	27.7 (100)
7.0 Responsibility to colleagues	24.1 (87)	19.4 (70)
8.0 Public statements	21.6 (78)	19.4 (70)
9.0 Research	21.1 (76)	15.5 (56)
6.0 Responsibility to the profession	16.3 (59)	26.3 (95)
10.0 Responsibility to the Behavior Analyst Certification Board	15.8 (57)	18.3 (66)

Table 7 Coding of open-ended responses ($N = 36$)

Code	Count	%
Punishment procedures	10	27.8
Setting and/or LRE concerns	9	25.0
Physical restraint and/or seclusion	8	22.0
Difficulty accessing resources for treatment	8	22.0
Difficulty—staff, time, or integrity	5	13.8
Acceptability/validity of ABA within the setting	4	11.1
Need to run FBAs/behavior assessments	4	11.1
Interpersonal-level conflicts—goals and priorities	3	8.3
Interpersonal-level conflicts—expectations or role	2	5.5
Difficulty—money or expenses	1	2.7

Note. This table outlines the responses to the question "Please explain the situation," the follow-up prompt respondents saw if they answered yes to the question "Have you ever worried about proposing or implementing a treatment you felt would be effective due to concerns over federal special education law?" *LRE* least restrictive environment, *ABA* applied behavior analysis, *FBA* functional behavior assessment

and physical restraint and seclusion or difficulty in accessing resources for treatment (21.2% each; see Table 7).

Analyses Across Respondent Subsets

Relevance of Federal Special Education Law Across Clinical Settings

Across all clinical settings included in the survey (i.e., general education classroom, special education classroom, inclusive classroom, specialized school, hospital, home instruction, and residential program), at least some respondents indicated that federal special education law was not applicable to service provision. The number of respondents indicating no generally increased alongside the restrictiveness of the educational placement (see Table 8). For example, 16.7% of respondents indicated that the law was not applicable in specialized schools, whereas only 5.9% made the same indication for special education classrooms.

Comparisons Across Special Education and Behavior Analysis Degrees

Overall, respondents holding a degree in special education indicated higher levels of familiarity across all terms ($z = 8.68$, $p < 0.001$; see Table 9). We also observed differences in familiarity with individual terms between background degrees. For example, the majority of respondents holding a special education degree indicated they were

Table 8 Relevance of federal special education law across reported clinical settings ($N = 247$)

Setting	Yes % (*n*)	No % (*n*)
Inclusive classroom	94.2 (81)	5.8 (5)
Special education classroom	94.1 (112)	5.9 (7)
General education classroom	93.5 (87)	6.5 (6)
Specialized school	83.3 (60)	16.7 (12)
Home instruction	68.4 (65)	31.6 (30)
Residential program	65.4 (17)	34.6 (9)
Hospital	60.0 (3)	40.0 (2)

extremely familiar with FAPE (73.8%), LRE (84.6%), and IDEIA (70.3%); fewer respondents holding a degree in behavior analysis reported extreme familiarity across these terms (i.e., 52.9% for FAPE, $z = 2.58$, $p = 0.001$; 64.4% for LRE, $z = 2.69$, $p = 0.007$; and 50.0% for IDEIA, $z = 2.33$, $p = 0.02$). Across both groups, the majority of respondents indicated they were extremely familiar with IEPs (86.2% of those with special education degrees and 81.7% of those with behavior analysis degrees; $z = 0.49$, $p = 0.62$).

Across groups, responses to the question regarding the responsibility to ensure service delivery is in compliance with federal special education law were similar. The majority of respondents (60.0% and 62.5%) indicated that it was their own responsibility ($z = 0.63$, $p = 0.53$). Although the differences did not emerge as statistically significant, it is interesting to note that respondents holding special education degrees were more likely to indicate that print (44.6% over 30.8%; $z = 1.82$, $p = 0.068$), online (53.8% over 39.4%; $z = 1.83$, $p = 0.067$), and professional development (41.5% over 27.9%; $z = 1.83$, $p = 0.067$) resources were available to learn more about federal special education law. Respondents in both groups were almost equally likely to indicate that an informed coworker was an available resource (43.1% and 40.4% specifically; $z = 0.35$, $p = 0.73$).

Comparisons Across Years of Experience

Across all of the terms assessed in the survey, of the respondents who indicated being extremely familiar with each, the majority had more than 5 years of clinical experience (see Table 9; $z = 14.70$, $p < 0.001$). Similarly, the majority (i.e., 60.0%) of respondents who indicated that federal special education law informs their clinical decision making had more than 5 years of experience ($z = 2.63$, $p = 0.009$); respondents with more years of experience were also less likely to report being unsure as to how the law informed their decisions (i.e., only 28.5% of respondents who selected this answer choice had more than 5 years of experience; $z = 5.14$, $p < 0.001$).

Although not statistically significant, respondents with more than 5 years of experience were more likely to report

Table 9 Comparison of extremely familiar ratings across degrees and years of experience

Term	Degree field		Years of experience	
	Special education % (*n*)	Behavior analysis % (*n*)	0–5 years % (*n*)	6+ years % (*n*)
Free appropriate public education	73.8 (48)	52.9 (55)	38.6 (61)	61.4 (97)
Least restrictive environment	84.6 (55)	64.4 (67)	42.9 (81)	57.1 (108)
Individuals With Disabilities Education Act	70.3 (45)	50.0 (52)	40.9 (61)	59.1 (88)
Individualized education program	86.2 (56)	81.7 (85)	42.1 (88)	57.9 (121)
Age of eligibility	64.6 (42)	49.0 (51)	38.0 (54)	62.0 (88)
Transition services	44.6 (29)	33.0 (34)	30.5 (32)	69.5 (73)
Zero reject	29.7 (19)	6.7 (7)	32.5 (14)	67.5 (29)
Present levels of academic achievement and functional performance	63.1 (41)	43.7 (45)	37.9 (50)	62.1 (82)
Measurable annual goals	86.2 (56)	73.1 (76)	43.4 (86)	56.6 (112)
Special education	84.6 (55)	59.6 (62)	43.1 (78)	56.9 (103)
Related services	69.2 (45)	53.8 (56)	39.4 (61)	60.6 (94)
Supplementary aids and services	65.6 (42)	42.3 (44)	40.0 (54)	60.0 (81)
Extended school year	72.3 (47)	64.4 (67)	39.6 (67)	60.4 (102)
Assistive technology	58.5 (38)	48.1 (50)	39.4 (54)	60.6 (83)
Procedural safeguards	61.5 (40)	41.3 (43)	36.2 (47)	63.8 (83)
Functional behavioral assessment	89.2 (58)	86.5 (90)	44.0 (99)	56.0 (126)
Manifestation determination	43.1 (28)	31.7 (33)	29.1 (30)	70.9 (73)

that they were responsible for ensuring their compliance with the law (i.e., 55% of the respondents selecting this answer choice; $z = 1.68$, $p = 0.09$); they were also more likely to indicate that someone they supervised was responsible (i.e., 60%; $z = 1.63$, $p = 0.10$). More experienced respondents were also more likely to indicate that resources were available to them for learning more about federal special education law when compared to less experienced respondents (i.e., 60% of respondents indicating the presence of resources had over 5 years of experience; $z = 5.89$, $p < 0.001$). The majority of respondents who indicated that federal special education law does interfere with the professional and ethical responsibilities of behavior analysts (69.7%) also had more than 5 years of experience ($z = 3.08$, $p = 0.002$).

Discussion

It is our position that behavior analysts should receive training in federal special education law to enhance their service provision and adherence to the ethical standards of the field. Competency in federal special education law can result in increased credibility among the IEP team, the ability to advocate for clients' rights confidently, and the implementation of behavior-analytic interventions that do not infringe on the rights of clients and their peers. This study sought to gather preliminary data on behavior analysts' self-reported training on and knowledge of federal special education law through an electronic survey.

The majority of respondents reported receiving training and indicated that they were familiar with some of the basic concepts and terminology, though approximately one third of respondents reported they had not received such training. Moreover, familiarity with terms appeared to be correlated with a degree in special education and increased experience in the field. Respondents to this survey also reported a number of barriers (i.e., lack of materials, unclear job responsibilities, a heavy caseload, knowledge not required by employer, lack of training resources, lack of professional development opportunities, and lack of time) preventing their further training in federal special education law. Across respondents, there were conflicting perspectives on how adherence to these laws aligns with the *Professional and Ethical Compliance Code for Behavior Analysts* or their professional role as evidenced by their contradictory responses to the questions regarding their alignment. For any one section of the code, between 34% and 57% of respondents held opposing views regarding federal special education law and the applicability of the code. This is consistent with past research that has found variability in behavior analysts' use and interpretation of the *Professional and Ethical Compliance Code for Behavior Analysts* (Cox, 2021).

Moreover, nearly half of all respondents indicated that someone else was responsible for their compliance with federal special education law. Similarly, a portion did not believe that knowledge of these laws was required of them, or believed that the law was not applicable to the setting where they provide services, despite working in school systems. The majority of respondents who reported someone else is responsible for their compliance with the law also reported not receiving training in the law. Conversely, 55.1% of respondents indicated that they were responsible for complying with the law, and 84% of these respondents indicated receiving some formal training on the topic. Given a number of respondents indicated they had received little to no training in IDEIA, it is difficult to identify how these individuals can be held accountable for their compliance with this legislation. However, under *the Professional and Ethical Compliance Code for Behavior Analysts* (BACB, 2016), such accountability is implied if not explicitly stated. At this time, it is not known how employers, school systems, and other organizations are ensuring compliance with federal special education law when BCBAs report little to no prior training in this area.

The free-text response questions also highlighted BCBAs' concerns about recommending restraint and seclusion procedures. It is important to note that a number of respondents specifically used the terminology "restraint" and "seclusion" when describing these situations. These specific terms have federal legal definitions, though litigation for these procedures is most commonly state specific. Therefore, practitioners' concerns about recommending restraint or seclusion may stem from state policies rather than knowledge of federal law. Although only approximately 10% of respondents completed this question, these responses indicate that behavior analysts should receive more training in federal and state-specific litigation.

One question that warrants additional investigation is whether responses were influenced by the respondents' clinical practice rather than knowledge of federal law. For example, the majority of respondents indicated that federal special education law is applicable across all settings provided. In particular cases, this may be true, though it is impossible to determine the exact number of cases wherein federal law is applicable across each setting. Therefore, it is unclear whether respondents answered this question based on their knowledge of their clients or their knowledge of federal special education law as a whole. Future researchers should seek to identify the source of control for responses to such questions. It is also unclear how more experienced BCBAs would have responded on the survey. Similarly, BCBAs' experience with federal special education law seems to be influenced by anecdotal guidance. For example, despite respondents' self-report indicating a high level of familiarity with some core terminology in federal special

education law, they reported less knowledge of manifestation determination. Manifestation determination is the only portion of federal statutes wherein functional behavioral assessments are deemed necessary in particular circumstances. It is possible that respondents' familiarity with federal special education law terminology is limited to their direct practice.

These data have many implications for applied practitioners, regardless of their clinical setting. First, schools, and agencies that work with schools, would likely benefit from trainings on federal special education law and the ways it applies to practice and service provision. Second, resources and other systems should be developed so that practitioners are not reliant on other employees for their understanding of the law. Reliance on other employees to interpret federal and state law is tenuous because, at the very least, behavior analysts are limited in their access to necessary information when they are in the presence of, or receive indirect communication from, that coworker. Third, available trainings and resources should be periodically checked and updated to ensure the information reflects any revisions to the law. Fourth, college courses, professional development, and continuing education events would likely be good opportunities for practitioners to review components of the law and their influence on service provision.

Additionally, any behavior analyst working with school-aged children can use their understanding of federal special education law to advocate for their clients' needs within their school setting by providing assessment data. Even when a behavior analyst is an outside service provider, any information brought to the IEP team must be considered under IDEIA (§ 300.502). Finally, some practitioners may not be able to independently further their understanding of the law due to large caseloads; 12.2% of respondents indicated that large caseloads were indeed a barrier to their ability to further their knowledge of the topic. For these respondents, it could be an important factor to consider. Behavior analysts working in school districts may have large caseloads that interfere with their ability to learn about the law while working in school systems. In these settings, knowledge of the law is crucial to appropriate service delivery and advocacy. This suggests this information needs to be digestible and easily accessible, and that at least some BCBAs currently practicing feel their client caseloads are overly large. Future researchers should collect more detailed information on respondents' caseloads and supervision responsibilities to further inform this recommendation.

At this time, the BACB functions as the sole organization overseeing the certification, continuing education, and ethical compliance of behavior analysts as a whole. Therefore, it seems likely that any effort to mandate training in federal special education law would need to come from, and be enforced by, the BACB. Although other agencies may be better equipped to provide training in this topic to practicing BCBAs, the BACB could mandate continuing education units be accrued in this area each recertification cycle, much as it has enforced the need for continuing education in ethics. This is especially pertinent as our findings indicate that anecdotal descriptions of federal special education law may guide the information, and resulting practice, of BCBAs more than other resources. It is also possible that the Association for Behavior Analysis International could enforce training within verified course sequences by making this training a requirement for program accreditation. This would function as a preliminary step toward ensuring future behavior analysts receive this training before beginning independent clinical practice.

A number of limitations to this study are worth noting. As the email containing the survey link did specify the basic content of the survey, it is possible there was a participation bias. Namely, primarily BCBAs who report having more familiarity with the topic may have elected to participate. Similarly, our survey simply asked respondents to rate their familiarity with terms and did not ask for demonstrations of the use of the terms or applications of the law as would be expected on the job; therefore, respondents may have self-reported a level of knowledge that does not align with their actual behavior when working with clients. Future researchers should gather data from other sources, and not rely on self-report, to measure BCBAs' familiarity with federal special education law. They may also elect to include more application-based questions or observations of decision making with respect to federal special education law in future projects. Additionally, the majority of respondents in this study were still fairly new to the field and therefore may be prone to overexaggerate their competency with the law (e.g., Dunning, 2011). Future researchers may choose to sample BCBAs at varying points in their careers to help address this limitation.

Although we asked respondents to report the presence of resources for learning more about federal special education law, we did not ask them to report on their reliance or use of these resources within their clinical practice. This is a limitation that should be addressed in a future project. Researchers may elect to compare respondents' reliance on these resources across subsets, such as those who received training in special education law as part of a degree program and those who did not. Further, it is important to note that the current study focused specifically on federal special education law. Based on respondents' free-text responses to the question "Have you ever worried about proposing or implementing a treatment you felt would be effective due to concerns over federal special education law? Please describe the situation," we suspect that respondents may have reported on conflicts resulting from local or state laws and regulations. Although local and state legislation cannot overturn the requirements specified

by IDEIA, they may add greater restrictions to what is considered acceptable procedures, or further specify the parameters within federal law. Thus, BCBAs may have responded to this question based on their understanding or experience with the additional legislation enacted at the local level for the state in which they work rather than the overall federal guidelines. Future researchers should evaluate whether knowledge of legislation at one level (e.g., federal, state, or local) impedes responding to legislation at another level and assess training and familiarity with both levels of legislation separately after making the distinctions between them salient for respondents. Similarly, future researchers may choose to identify whether training BCBAs in federal special education law results in ethical conflicts wherein BCBAs make recommendations based on their knowledge of the law at the expense of behavioral science. As such, it remains important to identify the sources of reinforcement for practitioners' behavior in the field.

The present study indicates that behavior analysts' interpretation of their roles and responsibilities as it pertains to compliance with U.S. federal special education law varies; however, the majority of respondents reported that considerations for the law do influence their clinical decision making. Further, many respondents reported receiving specific training in federal special education law at some point during or after graduate study. Although the true scope of behavior analysts' knowledge of and familiarity with federal special education law still remains unclear, these data suggest that as BCBAs continue providing school-based services, they may contact greater resources and develop stronger competencies in this area. In light of the present study, we encourage readers to access the many online resources available to begin familiarizing themselves with important terms and requirements of IDEIA. BCBAs may also elect to collaborate with other professionals to develop their skills as they pertain to federal special education law. Finally, given that roughly one third of respondents relied on an informed coworker to work within the confines of federal special education law and cited a lack of professional development as a barrier to accessing more information on the topic (meaning anecdotal information may guide decision making with respect to the law), the BACB may consider requiring continuing education units in this area for BCBAs working in school settings. Regardless of the physical setting in which BCBAs work, we support the position that all BCBAs working with school-aged individuals with disabilities develop competency in federal special education law to enhance their ability to advocate effectively and confidently for the needs of their clients.

Data availability All data collected are reported in the tables of the article.

Declarations

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

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained from all individual participants included in the study.

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