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Improved Soft-Skill Competencies of ABA Professionals Following Training and Coaching: A Feasibility Study

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Abstract

The field of applied behavior analysis currently faces critique regarding the need for increased compassion and interprofessional collaboration training toward culturally and emotionally responsive practice. Mindful self-compassion is evidenced to improve self-compassion and compassion. The purpose of the current study was to improve soft-skill competencies in collaboration and compassion of behavior analytic professionals. In this feasibility study, two cohorts of American behavior analytic professionals ($N = 24$) received a 4-month training-and-coaching sequence, with a pre-program focus group serving as the program's needs assessment. The Interprofessional Collaborative Competency Attainment Survey and Self-Compassion Scale, Short Form were administered pre- and post-intervention to ascertain program effectiveness, alongside open-ended survey questions. Training included experiential learning opportunities in small groups, with participants practicing self-compassion and collaboration skills. Coaching included additional individual practice opportunities. Pre- and post-whole test scores were significantly different on both instruments, with p set at .05, demonstrating preliminary effectiveness. Significance on paired-sample t-test for the Interprofessional Collaborative Competency Attainment Survey whole score fell at <.001, while for the Self-Compassion Scale, Short Form, it fell at .004. While prior studies have demonstrated the need for collaboration and compassion training within the ABA workforce, the current study reports on an implementation procedure to *improve* upon these skill sets, addressing a noted gap. Furthermore, the current study operationalizes collaboration alongside self-compassion, demonstrating the importance of centering collaborative practice within soft-skill awareness and competency. Future research can incorporate direct measures of these skill sets.

Keywords Coaching · Compassion · Interprofessional collaboration · Mindful self-compassion · Training

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Background

Interprofessional collaboration (IPC) refers to team-based operations among members of different professional groups toward improved client outcomes and is founded upon a set of competencies (Interprofessional Education Collaborative [IPEC], 2023). These underlying skills include: (1) *Values and Ethics*, via a respectful, equitable, and just culture, (2) *Roles and Responsibilities*, via knowledge of self/ others' roles and expertise, (3) *Communication* via clear, compassionate information sharing, and (4) *Teams and Teamwork*, or adaptable group dynamics (IPEC, 2023). Applied Behavior Analysis (ABA) professionals work on teams to support individuals toward an increased repertoire of socially significant behaviors (LaFrance et al., 2019). Clinical teams traditionally include speech, occupational and physical therapists, as well as family members, the individual served and clinical support staff. There is, however, literature indicating a certain degree of challenge among behavior analytic professionals in navigating these professional relationships (Brodhead, 2015; Friedman, Akselrud et al., 2022a; LaFrance et al., 2019).

While ABA literature outlines barriers to IPC and suggestions for improvement within the ABA profession (Brodhead, 2015; LaFrance et al., 2019), Morris et al. (2005) point out that few ABA studies are accepted outside the ABA publications, limiting opportunities for interprofessional dialogue. Recent research also suggests that difficulties with IPC competencies among behavior analytic professionals may stem from a historical lack within ABA clinical education of intentional training toward building IPC (Kirby et al., 2022; LeBlanc et al., 2020). Because many individuals served by ABA providers are *also* served by other professionals, the contextual and workplace requirements of current clinical settings may not match the clinical skill set of currently practicing ABA professionals. This demonstrates a gap between task requirements and practice abilities, necessitating training toward a better match between practitioner skill set and context of ABA professionals in the field (Friedman, Akselrud et al., 2022a; Slim & Reuter-Yuill, 2021).

Another current practice issue within the field of ABA is the increased interest in moving toward more compassionate, or emotionally responsive, care (LeBlanc et al., 2020; Rohrer et al., 2021). Though the field of behavior analysis has established the evidence base surrounding the "hard science" of behavior analytic principles, weaving humanity, compassion and "soft skills" into practice has emerged as a valuable target for growth (LeBlanc et al., 2020; Rohrer et al., 2021). As Rohrer et al. (2021) have stated, improving the ability of the ABA workforce to engage interpersonally with families and professionals is imperative to the social validity and continued prominence of the field. There has been a notable shift in demographic and cultural climate worldwide toward greater diversity, equity and inclusivity, while understanding the role these shifts play in placing demand on current and future ABA practitioners (Hilton et al., 2021; Miller et al., 2019). As a socially responsive and responsible profession, understanding how ableism and racism have impacted ABA service provision is also crucial to improvement in the way professionals serve diverse and underserved communities, in culturally compassionate practice (Catrone et al., 2023).

Since the necessity for soft-skill competencies training has been established, it is important to synthesize the current and emerging literature pertaining to empirical studies outlining not only need, but also mechanisms of improvement (Melton et al., 2023). To this end, Roher and Weiss (2022) describe operationalizing compassionate care skills into three distinct areas, and providing virtual training to ABA graduate students, with noted behavioral improvement in clinical training settings. D'Agostino et al. (2023) recently studied compassionate care implementation, finding that engaging compassionately with individuals served requires a flexible, individualized, and non-prescriptive approach. At the same time, compassionate, soft-skills delivered by ABA professionals must, as Gatzunis et al. (2023) have stated, *also* continue to remain faithful to the principles of behavior analysis. Essentially, systematically teaching compassionate, culturally responsive practice within the scope of ABA presents a unique conundrum: how to utilize behavioral skills teaching to shape and directly measure the particularly complex workplace interactions of ABA professionals.

Furthermore, while the IPEC (2023) competencies indicate that IPC is *possible* via role understanding and knowledge sharing; interprofessional practice is ideally built *also* upon emotional responsiveness among team members (Slim & Reuter-Yuill, 2021). Role understanding describes awareness of roles and scope of practice among team members (Suter et al., 2009), such as when an ABA professional working alongside a physical therapist (PT) understands and respects the PT's role in proper body mechanics while teaching a shared client to kick a ball. Knowledge sharing can be defined as the give-and-take of skills occurring between various collaborating individuals (Ndibu Muntu Keba Kebe et al., 2019), such as the PT imparting body mechanic techniques with the ABA professional, as they collaborate to teach a shared client to kick a ball. Though understanding one another's roles and sharing knowledge are both important elements of interprofessional practice; sustained team-based communication also requires skills and knowledge in social communication itself (Ndibu Muntu Keba Kebe et al., 2019).

Emotional responsiveness, or awareness of and ability to skillfully engage with one's own and others' emotions, has emerged from the literature as a foundation of interprofessional practice (Friedman, 2022; McNaughton, 2015). It is this emotional responsiveness, often clinically observed as openness or clinical humility, that can support the cultural, social, and professional development of the ABA workforce to more skillfully collaborate on teams and show compassion to individuals served (Kirby et al., 2022). Openness may be described as a flexibility to ideas from other team members, such as when an ABA professional considers incorporating knowledge shared by the PT to teach a child how to kick a ball, rather than utilizing a strategy solely from within the ABA scope of practice (Légaré et al., 2011). Clinical humility is the mindset underpinning that openness, a mindset that skills and knowledge from one's own profession are just one contributing factor, among other important sources of knowledge that must be considered in professional settings (Brodhead, 2015). Mindful self-compassion (MSC), or thoughtful loving kindness directed toward oneself, is a related competency to compassion, with evidence of it supporting the development of compassionate, collaborative practitioner communities (Neff et al., 2020). MSC is built upon principles of being compassionate to

oneself, while building awareness of personal challenges in the context of the greater human story (Neff et al., 2020). Both IPC and MSC exist within the literature as soft skills competencies that, when improved, can promote better outcomes for both practitioners and individuals served by systems of care (Friedman, Akselrud et al., 2022a; Neff et al., 2020).

The purpose of the current feasibility quasi-experimental design study, therefore, was to investigate whether a 4-month training-and-coaching intervention would improve self-perceived competencies in IPC and MSC. The training–coaching sequence was planned for currently practicing ABA professionals, guided by needs assessment and grounded in MSC principles (Neff et al., 2020), IPC competencies (Friedman, Hubbard et al., 2022b), and compassionate care approaches, delineated in recent research (Rohrer & Weiss, 2022). All activities within the sequence were planned to occur virtually and scheduled around workplace needs/practitioner availability. Although an outline of training–coaching was conceptualized at the start of the study, the implementation also allowed for considerable customization and personalized skill practice, thereby modeling the flexibility previously suggested in the research in delivery of compassionate care (D'Agostino et al., 2023). As such, the training–coaching intervention was the designated independent variable (IV), while scores on two validated instruments (one measuring IPC, the other measuring MSC) served as the dependent variables (DV). Research questions were delineated as:

RQ1: To what extent can a 4-month training and coaching intervention (IV) improve IPC (DV1), as indicated by increased scores on the Interprofessional Collaborative Competencies Attainment Survey (ICCAS; Archibald et al., 2014)? RQ2: To what extent can a 4-month training and coaching intervention (IV) improve MSC (DV2), as indicated by increased scores on the Self-Compassion Scale, Short-Form (SCS-SF, Neff et al., 2021)?

Methods

Participants

The current study commenced recruitment and informed consent procedures upon approval from a northeastern public university IRB in June 2022. Participation criteria for the study were designated as "actively practicing and licensed applied behavior analysis practitioner," to include Board Certified Behavior Analysts (BCBAs), Board Certified Assistant Behavior Analysts (BCaBAs), and Registered Behavior Technicians (RBTs). Twenty-four ($N = 24$) participants were recruited via employer-based recruitment, from two American employers, one on the east and one on the west coast region of the U.S. Of the 24 participants, 12 were BCBAs, one was a BCaBA, and 11 were RBTs.

The intervention sequence occurred twice, with participants from the east coast comprising the first cohort, while participants from the west coast comprised the second cohort. Participants indicated digital written Informed Consent and Audiovisual Informed Consent via Qualtrics prior to any form of study participation for

each individual recruited. Figure 1 provides visualization for location and demographic data of participants, and Table 1 provides specific participant data, as well as intervention components attended by each participant. Participants from the first cohort were offered to attend a voluntary needs assessment, informing the design of the subsequent intervention. Due to strong consistency between needs assessment results and evidence-based literature review, researchers elected to align intervention across the two cohorts rather than conduct a separate needs assessment for the second cohort. The majority of participants attended just the training and one or two coaching opportunities. Of the 24 participants, 79.16% completed the training and both coaching sessions. Following Fig. 1 and Table 1, the Intervention Sequence is further delineated.

Intervention Sequence

All training and coaching interventions were provided virtually, with training occurring in a slide-deck and seminar format and coaching sessions occurring primarily as semi-structured conversations. No incentives were provided to participants of this study, aside from free participation in the training and coaching sessions. Additionally, no penalties were given for missing any part of the study. While the eastern group received individual coaching sessions, the western group received coaching sessions in a group setting. Detailed needs assessment and training content are included in Table 2. As delineated in Table 2, both the Needs Assessment and Training format centered around a series of literature-supported and reflection-building questions, though follow-up questions were also incorporated as needed to deepen and guide discussion. The last column delineates which individuals participated in each component.

Fig. 1 Participant demographic chart

Table 1 Participant demographics and attendance

Participant number	Age, Sex	Education level	Attendance
1 (Eastern)	22, female	RBT	training, one coaching
2 (Eastern)	41, female	BCBA	needs assessment, training
3 (Eastern)	29, female	BCBA	needs assessment, training, two coaching
4 (Eastern)	52, female	BCBA	needs assessment, training
5 (Eastern)	30, female	BCBA	needs assessment, training, two coaching
6 (Eastern)	47, female	BCBA	needs assessment, training, one coaching
7 (Eastern)	28, female	BCBA	needs assessment, training, two coaching
8 (Eastern)	43, female	BCaBA	needs assessment, training, two coaching
9 (Eastern)	45, female	BCBA	needs assessment, training, two coaching
10 (Eastern)	31, female	BCBA	needs assessment, training, two coaching
11 (Eastern)	37, female	BCBA	needs assessment, training
12 (Western)	24, female	RBT	needs assessment, training, two coaching
13 (Western)	26, male	RBT	training, two coaching
14 (Western)	45, female	BCBA	needs assessment, training, two coaching
15 (Western)	27, female	RBT	training, two coaching
16 (Western)	22, female	RBT	training, two coaching
17 (Western)	29, male	RBT	training, two coaching
18 (Western)	24, female	BCBA	training, two coaching
19 (Western)	19, female	RBT	training, two coaching
20 (Western)	28, male	RBT	training, two coaching
21 (Western)	35, female	BCBA	training, two coaching
22 (Western)	27, female	RBT	training, two coaching
23 (Western)	35, female	RBT	training, two coaching
24 (Western)	30, male	RBT	training, two coaching

Needs Assessment

A one-time needs-assessment virtual focus group was conducted in August 2022 to support a design of the training–coaching sequence to closely meet the needs of participants. This initial focus group was scheduled as an optional offering to participants and included input from two RBTs, three BCBAs, and one BCaBA. The group was led by the PI (a dually certified occupational therapist and BCBA) and co-PI (a BCBA-D), guided by a list of grand-tour questions, as approved by the IRB. Table 2 further details these questions. It is important to note the role of the PI both as a dually certified individual, and as a researcher with several previously published interprofessional collaboration implementation studies. In this way, insight from both within and outside the behavior analytic profession guided this study, providing multiple perspectives in conceptualizing collaboration.

Needs assessment and coaching sessions followed a semi-structured discussion format, with each participant given the opportunity to respond to questions/prompts as well as to engage in discussion with other participants. In

Table 2 Needs assessment and training, detailed content

Study component	Outline of study component	Participants
Needs assessment	Collaborative competencies: Based on university training, how well prepared did you feel to collaborate with colleagues in the workplace? Please describe your own abilities and challenges with collaboration. Mindful self-compassion competencies: How important do you feel self-compassion is in your work as an ABA professional? How would you describe self-compassion in terms of operationalizing this skill? Compassion competencies: What are some observable components of compassion? How well-prepared did you feel based on your training to demonstrate these? What are some challenges you face in this area? What would you like to learn?	Initial group of two RBTs, three BCBAs and one BCaBA
Training	Collaboration: Operationalizing and role-playing communication, physical synchrony, role perception role play, behavioral aspects of conflict resolution. Mindful self-compassion: Delineating and practicing three principles of self-compassion, loving, connected and presence. Experiential practicing/doing. Compassion: Reflection of compassionate vs. less compassionate case studies, role playing compassionate skills in role play scenarios.	Full group of 24 ABA professionals

the semi-structured qualitative tradition, while general questions/topics guide a discussion, a list of potential follow-up probes are designed for each general question, as well as unscripted researcher utilization of additional probing queries related to previous responses (Adams, 2015). To illustrate this, in the current study, specific grand tour questions (e.g., "What was your university-based preparation for interprofessional practice?") and follow up questions (e.g., "What experiences were impactful to or supportive of your ability to engage interprofessionally?") guided the needs assessment. During the needs assessment, when a participant mentioned a specific workplace where collaboration was emphasized, an unplanned probing query included, "In reflecting on this workplace, what did that experience teach you about the nature of collaboration?" The above example demonstrates the iterative and non-prescriptive nature of semi-structured format. This also reveals how providing a format can support reflection upon relevant

experiences, while delineating the potential uniqueness of each individual's experiences, upon which a relevant training approach can be designed.

The PI and co-PI collaborated in guiding in the needs assessment discussion, while independently gathering field notes of participants' responses. The focus group was additionally recorded and reviewed by the PI and co-PI, for further analysis. Each researcher created their own list of priorities based on their understanding of participants' contributions, followed by a joint discussion between the researchers to gain agreement on areas of need. Finally, the PI and co-PI reached consensus, agreeing to primarily direct the training toward (1) experiential practice of social-emotional responsiveness in interprofessional collaboration and (2) mindful self-compassion training toward greater understanding of the self in the context of workplace challenges. While compassionate care skills were also embedded throughout the training, these were directly taught via video modeling and live role play opportunities.

Training and Coaching Sessions

Training was delivered to each cohort as a group, and occurred virtually in time blocks scheduled with the participants in the first month of each respective cohort, generally occurring over 3 h. Coaching sessions were scheduled over the following 2 months either on a group or individual basis, in 15-min to 1-h time blocks depending on individualized need and preference. While some participants preferred an individual session in 15–30 min time blocks, others preferred a group in 30–60 min time blocks. Participants were given the option to attend training and coaching sessions from the setting of their choice, given flexible workday schedules and based on participant availability and preference. Training and coaching interventions were delivered by the PI and co-PI, and utilized an outlined format as informed by the needs assessment. Training content was designed to meet participants' unique needs, as discovered in the needs assessment, utilizing a similar sequence throughout the study, touching upon the following three topics, in the following order during all sessions: IPC, MSC, and Compassion.

Within the initial training, IPC was operationally defined to replicate Friedman, Hubbard et al. (2022b), where three distinct skill sets were taught and practiced experientially as components of IPC: Communication, Role Perception, and Conflict Resolution. Communication, or socially engaged, physical attunement such as leaning in to others when communicating, was defined and practiced. Role Perception, defined as understanding/learning about roles of all others on the team (including family and individual served) was taught using the metaphor of gears working together within a machine, followed by specific small group discussions sharing understanding of roles. Conflict Resolution was described as careful listening, with an eye toward both hidden motivations and practical solutions and was practiced via small and large group discussions/role plays of presently occurring workplace and personal conflict scenarios. During coaching sessions, elements of IPC were reviewed, with examples of challenges or achievements in this area elicited from participants, followed by coaching toward deeper understanding of one's own reactions and abilities. MSC was the second topic across training/coaching sessions, and

incorporated a recall of challenging situations in the past week or month, followed by a specific self-compassion exercise and reflection from Neff et al. (2020), a curriculum specifically designed for use with clinical communities. Finally, the topic of compassion, or emotional attunement to others, was discussed in both training and subsequent coaching, where videos of practitioners from open educational resources were reviewed and analyzed via a compassionate-care lens, guided by concepts described in Rohrer et al. (2021). Researchers coordinated events around workplace schedules while sharing evidence of benefits in published studies where similar skills were covered (Friedman, Hubbard et al., 2022b; Neff et al., 2020). A potential benefit to participants of engaging in this study was improved knowledge and skills pertaining to collaboration, self-compassion, and compassion.

Table 3 outlines the content and timeline of the training and coaching intervention. The first column in Table 3 describes the monthly schedule of the intervention, as well as activities occurring during that month within the timeline. The middle column describes general topics and questions that loosely guided each of the intervention components. Finally, the last column includes the forms of data collected at each point within the timeline.

The training included a blend of traditional didactic teaching of IPC and MSC concepts, as well as experiential individual and group exercises pertaining to competency-based demonstration of collaborative and mindful self-compassion skills. All coaching sessions occurred via synchronous/live virtual meetings, and followed a semi-structured format, consisting of a list of pre-determined questions pertaining to current, personal challenges in IPC and MSC. Delivery of training and coaching was scheduled with 2 to 4 week breaks in between sessions. Generalization was promoted with naturally occurring opportunities (Swan et al., 2016), as well as with distributed practice (Carpenter et al., 2022). Time between sessions afforded participants with several weeks of practice in between each session, during which participants shared challenges in targeted areas, and were guided toward implementation of strategies during and between sessions. Although quantitative data were collected only at the start and end of the study, participants utilized coaching sessions to reflect upon and verbally share their practice opportunities that had occurred between sessions. The first cohort participated in training and coaching from September through December 2022 and the second cohort participated in a slightly shorter sequence (with fewer weeks between sessions) from November 2022 through December 2023.

Data Collection

Timeline of Data Collection

Participants each completed two survey-based assessments, ICCAS and SCS-SF, prior and subsequent to the training–coaching intervention, as well as responding to several program-evaluation open-ended questions at the end of the intervention via survey. In the first cohort, pre-surveys were completed in September 2022, and post-surveys were completed in December 2022. In the second cohort, pre-surveys were completed in November 2022 and post-surveys were

Table 3 Training and coaching intervention sequence timeline

Timeline	Content outline	Data collection
Month 1 - Pre-Test and Training	Distributed cognition; collaboration vs. communication, role perception role play, understanding and labeling conflict, conflict resolution competency, mindful self-compassion framework review, written and verbal mindful self-compassion exercises	ICCAS and SCS-SF pre-test completion
Month 2 - First Coaching Session	Participant coaching following semi-structured script of questions including: Please share scenarios you've experienced in the past week/month that presented challenges to collaboration. Please share scenarios you've experienced in the past week/month that presented challenges to self-compassion. How do you feel you've grown in each area? What do you find is still challenging?	
Months 3–4-Second Coaching Session, Post-Test	Participant coaching following semi-structured script of questions including: Please share scenarios you've experienced in the past week/month that presented challenges to collaboration. Please share scenarios you've experienced in the past week/month that presented challenges to self-compassion. How do you feel you've grown in each area? What do you find is still challenging?	ICCAS and SCS-SF post-test completion

completed in January 2023. Permission from the assessments' authors was sought and received for use of these instruments for research purposes. All training and coaching interventions were additionally recorded for program evaluation and monitoring.

Data Collection Instruments

Self-perceived competencies of IPC were measured pre- and post-intervention via the ICCAS, a 20-item validated instrument designed for use in interprofessional initiatives (Archibald et al., 2014). The ICCAS measures IPC in six areas: Communication (5 items), Collaboration (3 items), Roles and Responsibilities (4 items), Collaborative Patient/Family-Centered Approach (3 items), Conflict Management/Resolution (3 items), and Team Functioning (2 items). The ICCAS has been designed and utilized specifically to assess interprofessional competency, with consistently strong psychometrics when utilized both retrospectively and as a pre- and post-test, as well as alignment with interprofessional learning competencies over time (Archibald et al., 2014; Jackson, 2017; Kruger et al., 2023; Violato & King, 2019). Furthermore, the ICCAS has evidence of strong content and concurrent validity (Schmitz et al., 2017) as well as internal consistency (Cronbach's alpha coefficients above .90), as reported in initial validation literature (Archibald et al., 2014).

MSC was measured via the SCS-SF, a 12-question self-perception questionnaire measuring individuals' abilities to describe their own competencies in self-kindness (Neff et al., 2021). The SCS-SF is a shortened, more efficient version of the original, and longer, self-assessment of self-compassion (the Self-Compassion Scale or SCS), designed by Kristen Neff to understand an individual's ability to engage with oneself with kindness (Neff, 2003, 2016). SCS-SF was developed following validation of SCS, and has demonstrated strong internal consistency (Babenko & Guo, 2019), Cronbach's alpha value of .86 (Raes et al., 2011) and correlation of .97 with the original SCS (Raes et al., 2011). In terms of utility, SCS-SF has been used pre- and post-interventions to measure the effects of self-compassion training (Neff & Germer, 2013; Wasson et al., 2020).

Data Analysis

A paired sample *t*-test was utilized to analyze differences between pre- and post-test sums for both the ICCAS and SCS-SF for the full group of participants. Data analysis for the full group was completed in January 2023 following the completion of the second cohort. Participants completed surveys via secure link on Qualtrics, with results tabulated in Microsoft Excel and then compared via IBM-SPSS statistical software package. ICCAS pre- and post-tests scores were compared for each of the six subtests as well as for the whole instrument, while for SCS-SF, only whole-test scores were compared.

Results

Comparison of pre- and post-test for participant whole-test ICCAS scores revealed an average of .55 points per question increase. The category of largest increase within the ICCAS sub-tests was "Team Functioning" with an average of 1.033-point increase between the pre- and post-test for each participant in that sub-test. The category of smallest increase within the ICCAS sub-tests was "Collaboration" with an average of .26667-point increase between the pre- and post-test for each participant in that sub-test. In terms of RQ1, a statistically significant difference was found for the whole-scores of the ICCAS pre-test vs. post-test ($p < .001$), as well as for five of the six sub-tests, with the exclusion of the "Collaboration" subtest. In terms of RQ2, comparison of pre- and post-test scores for the SCS-SF revealed an average increase of .30556 points per question, with a statistically significant difference revealed in the post-test ($p = .004$). Table 4 indicates results of statistical analyses of pre- and post-test scores, including Cohen's d values. For the purpose of this study, scores for the entire group (rather than by western or eastern region) were calculated.

Discussion

The current study describes a 4-month-long intervention, delivered to two cohorts of ABA professionals in the eastern and western U.S. The competencies outlined above align with recent discussions among ABA professionals and scholars regarding the need for a more culturally, emotionally, and socially responsive practice (Hilton et al., 2021; Kirby et al., 2022; Miller et al., 2019). Intentionally training current practitioners in soft-skills such as collaborative and compassionate competencies can create momentum for workplaces and clinical spaces that are collaborative, co-created, and non-ableist (Catrone et al., 2023). Additionally, fostering interprofessional relationships through increased emotional competency aligns with previous work pointing to collaboration as both an observable and emotional process (Friedman, Akselrud et al., 2022a; Slim & Reuter-Yuill, 2021).

Limitations

While results from this study are promising for the professional ABA community, the study presents with certain notable limitations. The measurement tools utilized self-perceived survey questions to assess change. While the perceptions of individuals are valuable indicators, these measurements are not strictly behavioral and may be biased. The current study did not utilize direct, observable measures of behavior, serving as a limitation to the generalizability and portability of the results to other settings and workplaces.

Sample size in this study was limited, due to the extended time period required of participants. Data from each of the two cohorts, in the eastern and western region,

Table 4 Paired sample t-test, ICCAS and SCS-SF pre- and post-intervention

	Mean	Std. deviation	Cohen's d	Std. error mean	95% Confidence interval Lower	Upper	t	df	Sig. (2-tailed)
FULL ICCAS PRE-POST	.55036	1.30922	.42	.07852	.70494	.39578	7.009	277	<.001
Communication Pre-Post	.42667	1.28582	.33	.14847	.72251	.13083	2.874	74	.005
Collaboration Pre-Post	.26667	1.28629	.21	.19175	.65311	.11978	1.391	44	.171
Roles Pre-Post	.86667	1.34164	.65	.20000	1.26974	.46359	4.333	44	<.001
Collaboration with Family, Pre-Post	.77778	1.50588	.51	.22448	1.23019	.32536	3.465	44	.001
Conflict Resolution Pre-Post	.37778	.83364	.45	.12427	.62823	.12733	3.040	44	.004
Team Functioning Pre-Post	1.03333	1.29934	.80	.23724	1.51855	.54812	4.356	29	<.001
FULL SCS-SF PRE-POST	.30556	1.38668	.22	.10336	.50951	.1016	2.956	179	.004

did not undergo group-by-group analysis due to the small size of each cohort; rather, results were calculated for the entire group as a whole. Therefore, differences between individual vs. group coaching and shorter vs. longer time periods between coaching/training sessions were unable to be ascertained. Researchers in this study also designed and delivered the intervention, potentially skewing or biasing the results. Further, the trainings were provided by the PI and co-PI, who represented just two professions (occupational therapy and applied behavior analysis). Representation from a greater variety of professionals when designing an interprofessional learning intervention may have allowed for knowledge exchange across multiple perspectives. Finally, while the needs assessment included a variety of behavior analytic professionals, a more robust data collection and needs assessment cycle prior to the study may have improved the design of the subsequent training-and-coaching intervention.

Implications for Practice

The purpose of this study was to explore the impact of a 4-month long training–coaching sequence on IPC and MSC of ABA professionals. Given the reported lack of training of behavior analytic professionals, coupled with the increased focus on practitioner soft-skills, this study represents an important contribution to the literature in terms of outlining mechanisms for change and improvement (LaFrance et al., 2019; LeBlanc et al., 2020; Slim & Reuter-Yuill, 2021). This study also holds several practical implications for currently employed practitioners, ABA business owners, families served by ABA, and interprofessional practice partners of ABA professionals.

First, intentionally designed coaching-and-training sequences can support better preparation of ABA professionals toward emotionally responsive, compassionate, and collaborative practice. Currently employed ABA professionals can engage in ongoing peer coaching, to pursue education and improvement in soft skill competencies, moving toward greater collaboration and mindful self-compassion, as supported by workforce leaders and researchers (Brodhead, 2015; Neff et al., 2020; Rohrer et al., 2021). In particular, utilizing the Mindful Self-Compassion framework was evidenced within this study to be impactful (Neff et al., 2020). This feasibility study can be expanded and replicated for use with a wider population, with a more direct measure of change in terms of observable behavior in IPC and MSC competency areas. A recently developed instrument, the Parent Partnership Questionnaire, holds potential for use in conjunction with training or coaching, in guiding longer-term approaches to measuring and improving ABA practitioners' soft skills (Marchese & Weiss, 2023). This tool can likewise be instrumental in supporting interprofessionally designed and shared goals, across many professionals who serve on clinical care teams.

Second, ABA business owners may choose to improve employee retention by investing in their staff development, providing training and/or coaching in areas identified as priorities within the behavior analytic literature (Friedman, Akselrud et al., 2022a; LeBlanc et al., 2020). As stated, providing a better match between

employee skills and emerging systemwide values can better prepare their work-force for the emotional responsiveness required to succeed in today's provider climate. Interventions within this study occurred primarily within the dedicated workday in coordination with existing workplace schedules. The total time com-mitment from each participant across 4 months was 7 h at most. Interspersing ongoing learning each month with intermittent distributed practice between train-ing/coaching sessions demonstrates the potential of efficient delivery of relevant and impactful staff development.

Third, families and interprofessional partners of ABA professionals may be encouraged to understand the experiences and perspectives of actively practic-ing ABA professionals, as a means of engaging productively with one another in reciprocally compassionate relationships. Team-based dynamics has not been a historically prioritized area of training within behavior analytic coursework; this concept may be unknown to family and professional partners, and provides con-text as to how IPC has been impacted until now.

Ultimately, ABA professionals are vital members of interprofessional teams; their contributions and potentialities have been consistently demonstrated across time and settings. Therefore, maintaining strong "hard skills" while coordinating a concerted effort toward "soft skills" within the ABA field may align with one of the central tenets of behavior analysis: the importance of behavioral change to be *applied*, to be socially significant, to support the continued strong reputation of ABA among clinical partners and individuals served.

Declarations

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