

DIRECT SUPPORT STAFF RETENTION AND TURNOVER IN THE FIELD OF
APPLIED BEHAVIOR ANALYSIS: A NATIONAL SURVEY

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ABSTRACT

This paper explores the current rates and correlates of turnover among direct support staff working with individuals with developmental disabilities. While the United State Department of Labor, Bureau of Labor Statistics collects data on annual separation rates by a variety of industry sectors, there is not a recognized sector for the field of Applied Behavior Analysis. Other data sources similarly do not include Applied Behavior Analysis as its own industry sector, which produces a gap in knowledge. This study uses data obtained from providers of services for individuals with developmental disabilities in a national online survey to obtain rates of turnover for the field of Applied Behavior Analysis. Results indicate a lower rate of turnover than what is reported in the fields of education, and social services in general. The results also indicate that pay rate and amount of supervision offered increase retention while training offered pre and post hire has little correlation to rate of turnover.

Keywords: developmental disabilities, staff turnover, job, stress, burnout

DEDICATION

For my wife and son, who are the setting event and reinforcement for so much of my behavior.

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CHAPTER 1

INTRODUCTION

Employee turnover, or the rate at which employees leave an organization (Bendror, 1994; Paris & Hoge, 2010), can have sizable and adverse effects for the organization and its clients or customers. According to a 2012 survey of 449 human resource professionals, retaining and optimizing human capital will be the main challenges and investment areas facing human resource executives over the next decade (SHRM, 2012). Human resources professionals are concerned about staff retention because losing employees and training replacements slows productivity and can place a financial strain on the agency, (Arnold, 2005; Kiebusch, Price, & Theis, 2003; Waldman, Kelly, Arora, & Smith, 2004) as it takes time to recruit, train, and acclimate new hires (Mor Barak, Nissly, & Levin, 2001). Ramlall (2003) estimates the financial cost of employee turnover may be up to 150% of an employee's salary. Among positions earning \$30,000 or less, which included more than half of all U.S. workers between 1992 and 2007, the typical cost of turnover was 16% of an employee's annual salary (Boushey & Glynn, 2012). In best-case scenarios, the cost of employee turnover has been a minimum loss of 5% of the total annual operating budget (Waldman et al., 2004).

While staff turnover is a concern for any company, agencies that provide direct support to individuals with developmental disabilities have additional matters to consider. When employees leave, they take with them knowledge and training that they acquired over time about the position, agency, and clients (Abbasi & Hollman, 2000; Harris,

Kacmar, & Witt, 2005). Employee turnover may also increase the workload of the remaining staff, and discourage others from applying to open positions (Lambert, 2006). Individuals diagnosed with Autism Spectrum Disorders and related developmental disorders generally have difficulty with change and benefit from stable and consistent environments, caretakers and therapists. Typically, progress is lost when there is a change in direct care staff working with a client (Hastings & Symes, 2002). Turnover may also delay and impede effective service delivery (Kaff, 2004; Powell & York, 1992; Waldman et al., 2004), as the remaining staffing team may struggle to provide quality services when novice employees take the place of more veteran colleagues (Powell & York, 1992). Any disruption in the continuity of services and/or reduction in service quality could ultimately impact the client's progress towards goals (Hatton, Emerson, Rivers, Mason, Swarbrick, Mason, & Alborz, 2001; Hurt, Grist, Malesky, & McCord, 2013; Powell & York, 1992) family life (Grindle, Kovshoff, Hastings, & Remington, 2009) and potentially affect a family's trust in treatment.

The United State Department of Labor, Bureau of Labor Statistics collects information on annual separation rates by industry, including by region. For 2017, the rate of separation for Educational Services was 27.4% while the rate of separation for Health care and social assistance was 33.2% (Bureau of Labor Statistics, 2017). Both of these sectors provide direct support to individuals, often with behavioral issues and developmental disabilities, similar to those providing Applied Behavior Analysis (ABA) support. Although ABA can be provided in a variety of settings with a variety of populations, a large proportion of ABA services are provided to individuals with

developmental disabilities, due to the extensive body of research that has shown the successful use of this treatment approach for this population (Rogers & Vismara; 2008; Kazemi, et al, 2015).

Table 1 <i>Comparison of Turnover in Select Industries to National Average</i>	
Industry	Rate of Turnover
Education Services	27.4%
Health Care and Social Assistance	33.2%
National Average	3.5%

Developmental Disabilities

High levels of staff turnover have long been recognized as a major problem in services for people with developmental disabilities. Existing research about employee turnover suggests annual turnover rates in community-based services in the United States have consistently been reported at between 50% and 70% (Larson & Lakin 1992; Larson et al. 1998). Generally, when working with individuals diagnosed with developmental disabilities, direct support staff in this field report high levels of stress and burnout. Surveys of intellectual disability services have found between 25% (Robertson et al., 2005) and 32.5% (Hatton et al., 1999) of staff experience significant levels of stress. Low

wages are an additional contributor to turnover as Larson et al (2007) found the average wage among direct support staff in intellectual disability services across five states to be \$11.98 per hour. Direct support staff who provide essential services for individuals with intellectual and developmental disabilities (IDD) in residential, community, and vocational settings demonstrate higher turnover, ranging from 30% to 86% (Hatton et al., 2001; Larson & Hewitt, 2005). Burnout has been recognized as an important stress-related problem for employees working with people with an intellectual disability (ID): (Skirrow and Hatton, 2007). Given the importance of consistency of services with this population, we begin to see the negative impact that turnover can have on clients and staff alike.

The relationship between professionals and clients in this occupational sector is central to the nature of this highly demanding emotional work (Thomas & Rose, 2010). Professionals in this field are frequently exposed to stressors identified as relevant antecedents of burnout, such as role conflict, role ambiguity (Skirrow & Hatton 2007), low social support at work and work overload (Devereux *et al.* 2009). Work stress is a contributor to direct support staffs' intentions to quit (Hatton et al., 2001) and turnover (Pfefferle & Weinberg, 2008). Burnout has been recognized as an important stress-related problem for employees working with people with intellectual disability (ID) (Skirrow & Hatton, 2007).

The National Core Indicators (NCI) consists of both the National Association of State Directors of Developmental Disabilities Services (NASDDDS) and the Human Services Research Institute (HSRI). NCI conducts the Staff Stability Survey, an on-line

survey of provider agencies supporting adults with developmental disabilities in residential, employment, day programs and other in-home or community inclusion programs. The survey collects information about wages, benefits, and turnover of the direct support staff. The 2016 Staff Stability Survey found that of the staff that left their employer between January 1, 2016 and December 31 2016, 38.2% had been employed for less than 6 months. The average turnover rate for direct support staff in 2016 ranged by state from 24.1% to 69.1%. The NCI average was 45.5% (Hiersteiner, 2016).

The President's Committee for People with Intellectual Disabilities, established by President John F. Kennedy in 1961 to address the needs of people with intellectual disability and their families, released a 2017 report entitled, *America's Direct Support Workforce Crisis: Effects on People with Intellectual Disabilities, Families, Communities and the U.S. Economy*. The 2017 report addresses a "workforce crisis" consisting of not enough employees entering the industry to support the amount of individuals that will need support. The report cited concerns such as low wages, poor benefits, limited training and lack of career advancement opportunities as reasons for the lack of staff. A high turnover rate is well documented in the Direct Support Professionals (DSP) workforce (Bogenshutz, Hewitt, Nord, & Hepperlen, 2014; Braddock & Mitchell, 1992; Larson et al., 1998; Larson et al, 2005; ANCOR, 2010; Hewitt et al., 2015). Nationally, the average annual turnover for DSP positions is an estimated 45 percent, with a range of 18–76 percent (Hiersteiner, 2016). About 35 percent of DSPs leave their positions in less than six months, and approximately 22 percent leave within 6–12 months. As a point of

comparison, the national average separation (turnover) rate is only 3.5 percent, across all industries, as reported by BLS (2017).

Due to the costly effects to an agency and adverse effects on consumers of services, there is a large body of research on predicting intent to turnover in human service agencies (Acker, 1999; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Drolen & Harrison, 1990; Hatton, Emerson, Rivers, Mason, Swarbrick, Mason & Alborz, 2001; Kim & Kao, 2014; Lawson & O'Brien, 2005) and preventing (Cherniss & Krantz, 1983, Devereux, Hastings, Noone, Firth, & Totsika, 2009; Glisson, Dukes, & Green, 2006; Hanushek, Kain, & Rivkin 1999; Howard & Gould, 2000; Larson & Hewitt, 2005; Maslach, 2003; Mor Barak, Nissly, & Levin, 2001) staff turnover. The following section explores correlates of staff turnover.

Burnout

The most common reason for turnover in human services is burnout (see e.g., Alarcon, 2011; Arches, 1997; Cherniss & Krantz, 1983; Crawford, LePine, & Rich, 2010; Devereux et al., 2009, Evers, Tomic, & Brouwers 2004; Freudenberger & Richelson, 1980; Halbesleben, 2006; Lawson & O'Brien, 1994; Maslach, 1978; Shirom and Melamed; 2006, Schaufeli, Leiter, & Maslach, 2009). The concept of burnout emerged in the scientific literature in the mid-70s (Freudenberger, 1974; Maslach, 1978) as a metaphor to describe the process of people's energy depletion at work. Maslach (1982) describes burnout as a psychological response to chronic work-related stress of an interpersonal and emotional nature that appears in professionals in service organizations who work in direct contact with the clients or users of the organization. Maslach

characterized burnout as a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment. The Maslach Burnout Inventory (MBI) is a psychometric tool introduced in 1981 by psychologist Christina Maslach and is a widely used standardized index employed by many researchers as a means to measure Burnout Syndrome (Shirom & Melamed, 2006; Maslach & Jackson, 1981).

Demerouti et al., (2001) suggest a model of predicting burnout by correlating high job demands with low job resources. Job demands can include, but are not limited to role ambiguity, workload, red tape, and organizational politics. Examples of job resources include job control, autonomy, job variety, and positive social climate (Alarcon, 2011; Crawford, LePine, & Rich, 2010). Demerouti, et al. developed a model that simplified the MBI definition of burnout into the Job Demands-Resources (JD-R) model of Burn Out. The JD-R model proposes that the demanding aspects of work (i.e., extreme job demands) lead to constant stress and, eventually, to exhaustion. While simultaneously, a lack of resources to meet the job demands leads to withdrawal behavior. One long-term consequence of withdrawal is disengagement from work and ultimately leaving the organization (Demerouti et al.).

Unfortunately, much of the research on burnout rely on measures of a “state” or self-reports that are often difficult to measure accurately as opposed to observable behaviors that can be measured. Research shows that burnout can include behaviors such as increased absenteeism, tardiness and lowered job performance (Freundenberger & Richelson, 1980; Dwyer, 1991; Adler, 1981; Hatton et al. 2001). Pines and Maslach (1978) found that staff working in a mental health residential treatment facility spent

more time interacting with each other in order to avoid patient interactions. Direct support staff that interacted more with other staff than clients reported more feelings of stress, apathy and irresponsibility. The MBI has become a widely used tool to measure staff burnout yet research focusing on the validity of the MBI relationship to observed behaviors rather than entirely on self-report had been lacking (Maslach & Jackson, 1986).

Lawson and O'Brien (1994) used this gap in research as an opportunity to explore staff turnover in a day treatment facility primarily services adults with intellectual disabilities. The researchers operationally defined burnout "as a decrease in the rate of desirable behaviors within the work situation as a result of extinction produced by a lack of reinforcing contingent consequence" (p.38). In other words, a decrease in work performance directly correlates to a lack of reinforcement for the employee. The study focused on the direct care staff's behavior in four general categories: 1) desirable work-related behavior, 2) undesirable work-related behavior, 3) nonwork-related behavior and 4) other. Observations were conducted during program hours 10 times over a six-week period. Staff completed the MBI at the start and conclusion of the study. Absenteeism and tardiness rates stayed relatively consistent throughout the study for staff who demonstrated a pattern of avoiding client interaction or refraining from interaction had higher rates of absenteeism and tardiness. The findings suggest that direct measures of behavior are a better indicator of burnout than the MBI as staff reported lower rates of burnout than observed in the study. Observations of staff behavior suggested considerable burnout amount staff as to two thirds of observations found staff either uninvolved with clients or involved in negative interactions

Sample sizes and measures to capture turnover with staff that work directly with individuals with developmental disabilities have varied extensively across studies; however Larson, Lakin, and Bruininks (1998) have identified several factors that serve as predictors of turnover or turnover intent, including employee characteristics (e.g., younger or more educated employees) and client characteristics (e.g., challenging behaviors). Compared to employees who remain, employees who intend to leave the agency reported less satisfaction with their income or benefits, low staff-to-client ratios, less satisfaction with on-the-job training, difficulties with or lack of support from supervisors (i.e., practical or emotional support), low levels of feedback on job performance, and low levels of general job satisfaction (e.g., factors related to the work atmosphere, self-development opportunities, and pay) (Hatton & Emerson, 1993; Larson & Lakin, 1992; Larson et al., 1998; Larson & Hewitt, 2005; Razza, 1993; Strouse, Carroll-Hernandez, Sherman & Sheldon, 2004). Given the costly effects of staff turnover in this field, there is growing organizational interest in staff retention interventions that prevent frequent employee turnover.

In the meta-analysis research completed by Larson (1998), it was found that employees who intend to turnover report less satisfaction with their income or benefits, less satisfaction with on-the-job training, lack of support from supervisors, little feedback on job performance, and low levels of general job satisfaction.

In furthering the finding of Larson, et al. (1998), Kazemi, Shapiro, and Kavner (2015) surveyed 96 behavior technicians from 19 unduplicated Applied Behavior Analysis (ABA) service companies, asking them about their organization and their

intentions to quit. Researchers found that four main variables predicted 37% of people's intention to quit: lack of reported satisfaction with training, supervision, pay rate, and overall job satisfaction such as opportunities for advancement and praise for a good work performance.

Training

Staff training has long thought to be an important component to effective delivery of services regardless of the industry or target population served as well as antidote to staff retention. Lack of satisfaction with training was one of four factors in intent to quit identified by the Kazemi et al (2015) study of behavior technicians. Skill and performance play a key role in the delivery of good and consistent services (Dillenburger, McKerr & Jordan, 2016). One model that has been effective is Behavioral Skills Training (BST), which involves instruction, modeling, practice, and direct feedback (Parsons, Rollyson, and Reid, 2012; Reid and Parsons, 2000). Research has shown that training to mastery, also known as Performance-Based Feedback, as opposed to a set amount of time in training (example: 10 hours of training), is more effective in ensuring good performance from staff (Harchik and Campbell, 1998; Alvero, Bucklin, & Austin, 2001).

Supervision

Research has shown that satisfaction with training correlates negatively with intention to quit (Kazemi et al 2015) however, it is also important to understand how to most effectively utilized the supervisory relationship (Larson, et al. 1998). Research shows that effective supervision involves antecedents and consequences to encourage meaningful behavior or performance. Task clarification, job aides, goal-setting, feedback,

reinforcement, and adequate support are a few examples of advisable approaches to supervising others (Brown, 1982; Daniels & Bailey, 2014; Daniels, 2000; Gilbert, 2007; Jacobs, 2013). Supervision allows for a written or vocal report of job performance, providing information regarding the quality and/or quantity of the staff's behavior (Alvero, Bucklin, & Austin, 2001; Cooper, Heron, & Heward, 2007). Additionally, the information provided in supervision serves a vital role in improving a staff's performance by increasing desired behaviors and/or decreasing undesired behaviors (Barton & Wolery, 2007; Casey & McWilliam, 2011; Cooper et al., 2007; Kreitner, Reif, & Morris, 1977).

Compensation

Billingsley (2004) conducted a literature review to identify and better understand predictors of turnover intent for special education teachers and found that compared to teachers who reported intent to stay, teachers who reported intent to leave had lower paying jobs. Along the same lines, researchers have found that perceptions of pay (i.e., pay perceived as unfair) and lack of employee benefits predicted turnover intentions of social workers and teachers (Lambert et al., 2012; Russell et al., 2010). Larson, et. al (1998) indicated that staff compensation directly correlated to a decrease in staff turnover. For this reason, compensation was included in the variables examined here. Compensation to staff may be impacted by city and state funding for services, which can influence staffing rates. For example, payment for ABA services frequently originates from a government entity that have limits on the amount of income that staff can earn (Riley & Frederiksen, 1984). A behavior-analytic approach to make pay contingent on

high quality performance allows people greater control over their income potentially by adding bonuses into the pay structure. Additionally, this model has also shown to improve reported employee satisfaction, which in turn decreases staff turnover (Abernathy, 1996, 2011; Bucklin & Dickinson, 2001; Jenkins, Gupta, Mitra, & Shaw, 1998).

Job Satisfaction

Another important area when considering predictors to turnover is the enjoyment staff experience with their work environment (Green, Reid, Passante, & Canipe, 2008). The subfield of Organizational Behavior Management (OBM) known as Behavioral Systems Analysis (BSA) examines ways in which organization-wide contingencies can be implemented to improve job satisfaction (Diener, McGee, & Miguel, 2009; Rummeler & Brache, 1995). Strouse et al. (2004) found that by changing the staffing schedule, turnover was reduced by 43% and reported job satisfaction increased. Their research focused on direct care staff members at group homes for children and adults with developmental disabilities. The current work schedule utilized traditional shift work with most of the staff working 7:00 a.m. to 3:00 p.m., 3:00 p. m. to 11:00 p.m. or 11:00 p.m. to 7:00 a.m. five days a week. The agency found that the part-time staff that were used to fill in or cover weekends, would leave the agency at a rate over 250% higher than full time employees. The revised staffing schedule allowed for more stability of staff and minimized the number of people providing care by increasing the shifts to 12-hour days across three days week. This study found that not only did staff turnover decreased and staff vacancies decreased, reported job satisfaction also increased.

The goal of this study is to gather data on rates of turnover of direct support staff among providers of ABA. Additionally, data were collected on known strategies to retain staff such as pay raises, supervision and training. Rate of turnover was used at the dependent variable to determine the strength of correlation with the strategies that were reviewed above.

CHAPTER 2

METHOD

This study used an online survey that was administered to agencies that provide Applied Behavior Analysis in the United States. As of October 23, 2018, 240 agencies received this survey. Participants completed an online survey of 20 questions about staff turnover and correlates of turnover in their setting during the previous year.

Once Institutional Review Board exemption was obtained, an email was sent to the providers on October 12, 2018 which included a description of the study and an attached link to access the online survey (Appendix A). A second reminder was sent on October 19th, 2018 and the survey was closed on November 2nd, 2018. The survey completion was voluntary, anonymous and without any financial incentive.

Participants

Participants were found using a national search for providers that were accredited by the Behavior Health Center of Excellence, an international accrediting body specific to behavior analysis. State provider directories for Applied Behavior Analysis were utilized, often having been compiled by the insurance providers in that specific state. At least one provider from each of the 50 states were represented. Of the 240 providers surveyed, 23 providers participated, or 9% of those contacted. One respondent did not answer any questions; therefore, that survey was not considered eligible and was deleted from the dataset.

Survey

A 20 question English language questionnaire was created using Google Forms. A pilot study involving 5 Human Resource professionals was conducted to ensure that the survey questions were clear and addressed the study objectives. The survey was modified for clarity according to the feedback gathered from the pilot study.

Data Collection and Analysis

The survey gathered information on correlates of turnover and geographic variables for all staff who were on payroll for any length of time during the period of January 1, 2017 to December 31, 2017, as shown in Appendix B.

Descriptive statistics about the responding agencies are reported. Organizational practices hypothesized to be related to turnover were analyzed with a person correlation. Additionally a comparison between the 5 organizations with the highest rates of turnover were compared to the five with the lowest rates of turnover.

CHAPTER 3

RESULTS

Size and Location of Responding Agencies

Agencies from 14 states responded, including Alaska, Connecticut, Florida, Georgia, Hawaii, Illinois, Kentucky, Ohio, Minnesota, Pennsylvania, Tennessee, Texas, Virginia and Washington. The size of the agencies ranged from 6 direct support staff to 100 staff. The mean size of the agencies that responded was 29 direct support staff.

Rates of Voluntary Separation and Termination

Rate of termination ranged from 0% to 35% with an average rate of 7% for all respondents. Rates of voluntary separation ranged from 0% to 75% with an average of 19% for all respondents.

Table 2				
<i>Respondents by State, Number of Direct Support Professional, Percentage of Termination and Voluntary Separation</i>				
Provider	State(s)	Number of DSP	Percent of terminated DSP	Percent of voluntary separation
Provider 1	Washington	12	16%	0%
Provider 2	Washington	3	0%	0%
Provider 3	Florida	25	0%	0%
Table 2				

<i>(continued)</i>				
Provider	State(s)	Number of DSP	Percent of terminated DSP	Percent of voluntary separation
Provider 4	Connecticut and Florida	43	2%	7%
Provider 5	Tennessee	6	16%	0%
Provider 6	Georgia	22	18%	5%
Provider 7	Ohio	18	0%	44%
Provider 8	Minnesota	43	35%	33%
Provider 9	Virginia	65	5%	43%
Provider 10	Texas	6	0%	33%
Provider 11	Alaska	12	0%	25%
Provider 12	Illinois	30	0%	20%
Provider 13	Pennsylvania	10	0%	30%
Provider 14	Pennsylvania	89	6%	2%
Provider 15	Pennsylvania	8	0%	0%
Provider 16	Pennsylvania	17	0%	24%
Provider 17	Alaska	100	14%	20%
Provider 18	Pennsylvania	25	0%	8%
Table 2				

<i>(continued)</i>				
Provider	State(s)	Number of DSP	Percent of terminated DSP	Percent of voluntary separation
Provider 19	Pennsylvania	12	0%	8%
Provider 20	Kentucky	41	27%	22%
Provider 21	Texas	58	3%	36%
Provider 22	Texas	4	0%	75%
Provider 23	Hawaii	24	13%	8%
Average		29	7%	19%

Average Length of Employment

The average length of employment was 1.53 years. Two respondents did not answer this question.

Wages and Raises

Wages range from \$10.00 to \$30.00 an hour with the mean pay rate of \$15.70 per hour. 90.9% of respondents reported providing direct support staff with raises with 59.1% of those being as shown in Figure 1.

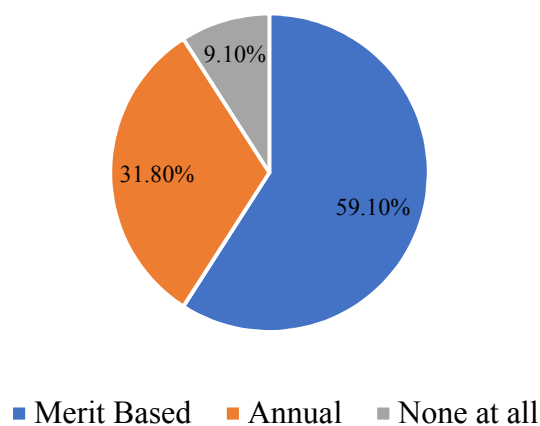


Figure 1. Pay Raises Based on Merit, Annual or None at All

When comparing starting pay rates versus current pay rates, the majority of respondents report offering pay raises and this is supported with the starting and current pay rates provided. The current range of pay is \$12.65 to \$25.00 per hour with the average hourly pay rate coming up from \$16.20 to \$18.64 per hour.

Benefits and Incentives

More than half of the respondents, 54.5% reported the agency offers health insurance to direct support staff, as shown in Figure 2.

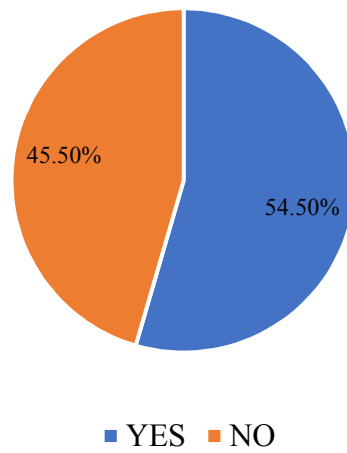


Figure 2. Percentage of Direct Support Professionals Offered Health Insurance

An even larger amount of respondents, 59.1% reported offering individual or company-wide incentives, such as gym memberships or bonuses as shown in Figure 2.

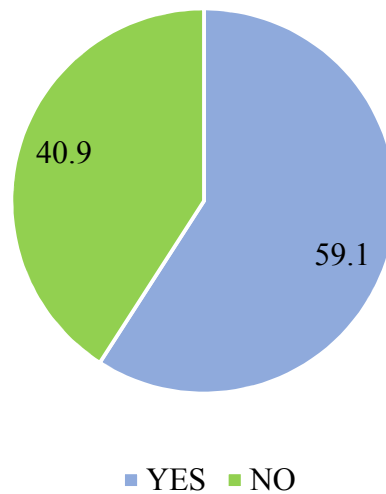


Figure 3. Percentage of Providers that Offer Incentives

Of the 21 valid responses, 72.2% (13 respondents) reported offering paid time off and of those 13 respondents, 6 agencies also offered retirement benefits.

19 valid responses were received, 15 respondents report that staff provide services in a 1:1 ratio, only 3 respondents report have a 2:1 ratio and one provider reported a 3:1 ratio of staff to clients. 45% of the providers only provide services in the home, school or community. 14% of respondents only provide services in a residential setting.

Training

The average amount of training in offered to direct support staff before starting with clients is 46 hours. This ranged from no training all the way up to 210 hours of training as shown in Figure 4.

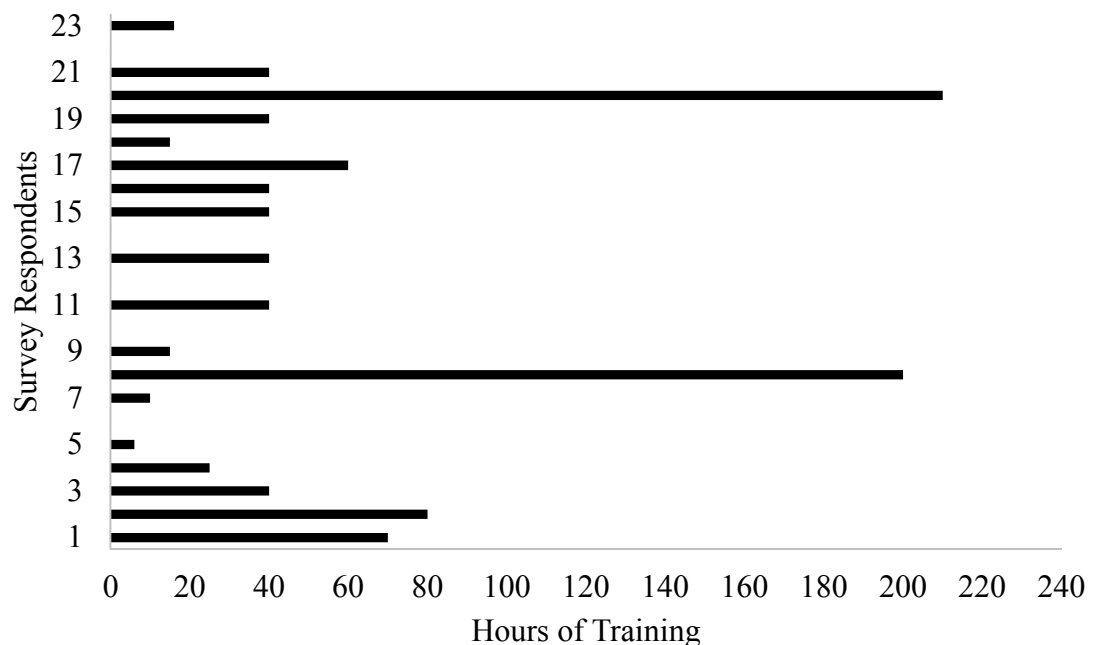


Figure 4. Number of Hours of Training Offered to New Hires

The number of training hours offered to direct support staff varied greatly where the lowest amount reported was zero and the high end reporting up to 285 hours as shown in Figure 5.

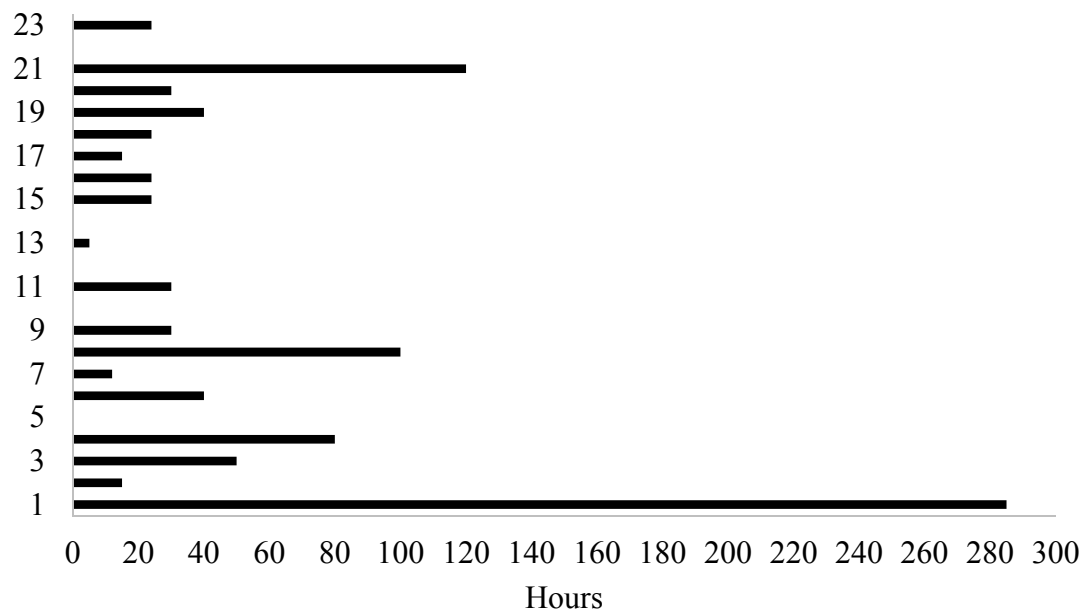


Figure 5. Numbers of Hours Offered Annually

Supervision

Several responses were not valid due to the respondent stating that staff receive 5% or 15% of total client contact or that staff receive an hour of supervision per client and not in hours per week as the question asked. Of the valid responses, the average amount of supervision for staff is 2.9 hours per week. Feedback given to staff also varies greatly from daily to weekly as shown in Figure 6.

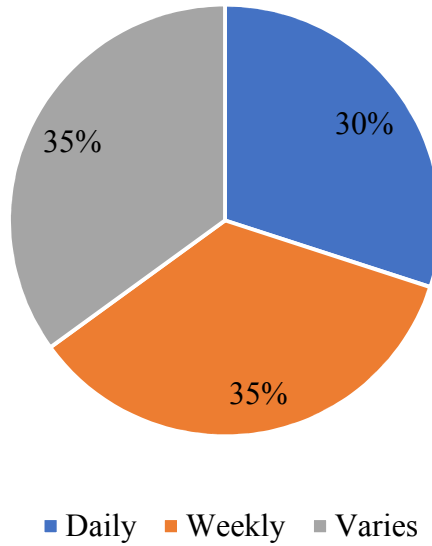


Figure 6. Percentage of Respondents that Provide Feedback Daily, Weekly and Varies

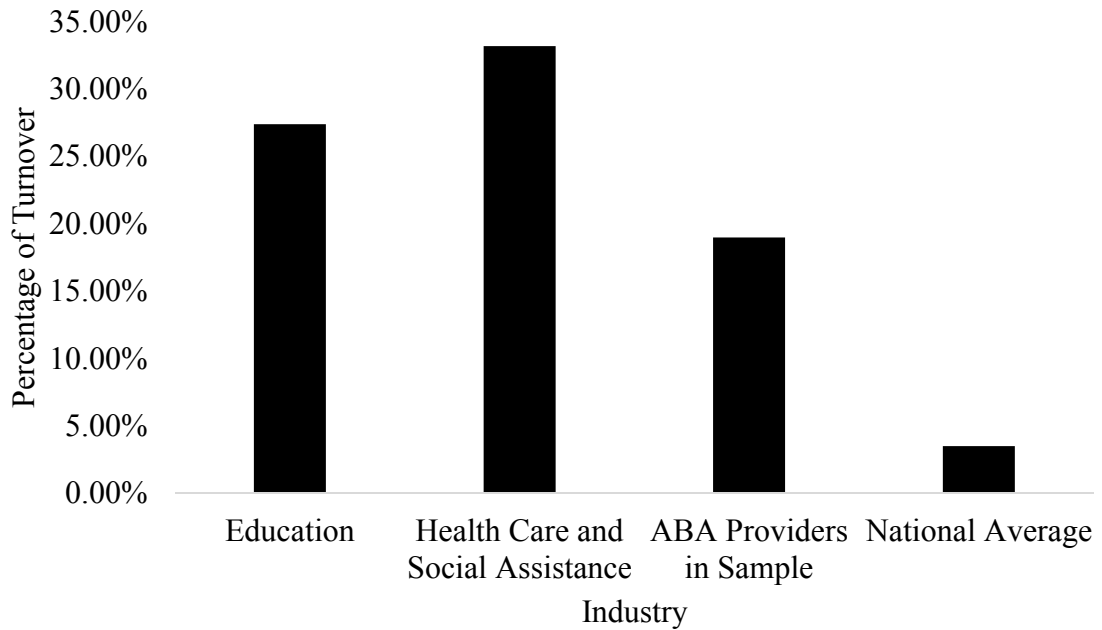


Figure 7. Comparison of Turnover in Select Industries that Include Results to National Average

5 respondents report 0% turnover from January 1, 2017 to December 31, 2017. In comparing just those 5 providers, all the providers are small, employing from 6 to 25 staff. All 5 providers also employ a large number of Register Behavior Technicians with 3 of the providers employing all RBTs and one provider with 80% of direct support staff holding this certificate.

Key differences can be seen when comparing the data from the 5 providers who reported 0% turnover to the 3 respondents with the highest turnover ($\geq 44\%$). Most noticeably, the providers with the highest turnover did not answer all the survey questions. The length of employment for providers with no turnover reported employing staff for 16.9 months longer when compared to those with the highest turnover rates. Additionally, the providers with no turnover employed 33% more RBTs or BCaBAs and pay an average of \$6.30 more an hour. Additionally, providers with no turnover offer 1.7 hours more of weekly supervision and 34.7 hours more of training upon hire.

Provider	# of Staff	Average Length of Employment (months)	RBT	Starting Salary per hour	Current Salary	Health Insurance offered?	Weekly Supervision in Hours	Hours of Training Upon Hire	On-Going Training	Satisfaction Measured?
1	12	36	12	18	18	Yes	5	70	285	No
2	3	24	2	18	20	No	2	80	15	Yes
3	25	24	20	20	20	No	1.5	40	50	Yes
4	6	24	6	10	12	No	2	6	0	Yes
5	8	24	8	20	24	No	3	40	24	Yes
Average	10.8	26.4	90%	\$17.20	\$18.80	80%	2.7	47.2	74.8	80%
<i>Note. Average percentage of RBT was taken by finding percentage of each provider and finding mean</i>										

Table 4 Profile of Providers with Highest Turnover										
Provider	# of Staff	Average Length of Employment (months)	RBT	Starting Salary per hour	Current Salary	Health Insurance offered?	Weekly Supervision in Hours	Hours of Training Upon Hire	On-Going Training	Satisfaction Measured?
1	18	9	7	10	12	No	1	10	12	Yes
2	65	10	48	15	17	Yes	NA	15	30	Yes
3	4	NA	NA	12.5	16	Yes	NA	0	NA	No
Average	29	9.5	57%	\$12.50	\$15.00	67%	1	12.5	21	67%

Note. NA is an abbreviation for No Answer. Average percentage of RBT was taken by finding percentage of each provider finding mean

Table 5	
<i>Correlation of Turnover to Independent Variables</i>	
Pay Rate	-.44
# of RBTs or BcaBAs	.22
Hours of Training Offered Pre-Hire	.01
Hours of Training Offered On-Going	.12
Hours of Supervision Offered	-.29

CHAPTER 4

DISCUSSION

There are few published studies aimed at exploring rates of turnover in direct support professionals implementing applied behavior analysis (ABA). Therefore, this survey was conducted with 23 ABA providers to determine not only rate of turnover, but the variables that might support staff retention. We found that respondents report an average of 19% turnover of direct support professionals compared to the NCI average of 45.5% (Hiersteiner, 2016). Overall, the data supports a lower rate of turnover of direct support staff in this small sample than what is reported in the education and social services industries and a greatly lower rate of turnover for those that work with individuals with developmental disabilities.

Findings suggest that two variables, rate of pay and hours of supervision, correlate to decreased turnover. It is not surprising that rate of pay is an influencer, so this study considered various incentive models. For example, raises were broken down into three categories: merit-based, annually or no raises given. 59.1% of respondents report providing employees with merit based pay increases, 31.8% were issued annually and 9.1% provided no raises. Hours of supervision provided was the second strongest variable. This supports previous research that indicates that supervision can improve reported employee satisfaction, which in turn decreases staff turnover (Abernathy, 1996, 2011; Bucklin & Dickinson, 2001; Jenkins, Gupta, Mitra, & Shaw, 1998).

The data showed that the amount of Registered Behavior Technicians an agency employs increases their staff turnover rates (Behavior Analyst Credentialing Board,

2018). This is likely influenced by the increased opportunities this credential allows.

Allowing for career advancement opportunities could mitigate RBTs leaving an agency.

Training shows the smallest effect on turnover, with .01% correlation to pre-hire training hours. However, there is a sizeable body of research that focuses on training as an important component of staff retention (Dillenburger, McKerr & Jordan, 2016; Parsons, Rollyson, and Reid, 2012; Reid and Parsons, 2000).). This could be an indication that the type and quality of training may be more important than the total number of hours spent in training, (Harchik and Campbell, 1998; Alvero, Bucklin, & Austin, 2001). This study did not request information regarding specific type of training being offered.

The data collected on supervision supports a decrease in staff turnover with a correlation of -.29. In this study, only the amount of supervision was measured whereas previous research suggests that interventions such as task clarification, job aides, goal-setting, feedback, and reinforcement are effective approaches to supervising others (Brown, 1982; Daniels & Bailey, 2014; Daniels, 2000; Gilbert, 2007; Jacobs, 2013). These findings indicated that supervision, along with training may have greatly influence on decreasing staff turnover, if used effectively. Supervision may successfully increase staff retention acting as an antecedent and consequences to meaningful work performance. The author infers that if used effectively, supervision can serve as positive reinforcement and serve as a setting event for future successful work performance.

While this research focuses on whether agencies measure employee satisfaction and not how to agency responds to the results of their measures, it is worth noting that

70% of respondents report measuring satisfaction. At a minimum, this may be an indication that an agency has an awareness that employee satisfaction (self-report) is an important indicator to turnover.

Limitations of this study include a small sample size. The survey was sent to 240 ABA agencies and only 23 responses were received. Additionally, the survey was sent to general email accounts and not necessarily the appropriate human resource personnel at the agency that has this information. There was also no way to corroborate responses from agencies or measure the amount of satisfaction staff have with the agency regardless of turnover rate. All responses being self-reported, so it is unknown how accurate the data are. Furthermore, these data represents a moment in time where rates of unemployment are relatively low. Changes in the overall economic status of the country could greatly affect these findings. Although, how the questions were written and the length of survey could have effected responses and willingness of agencies to complete as well as variability in responses.

Future research areas should include a larger, more representative sample. A larger sample would allow for a better sub analysis of different regions and settings that could not be accomplished in this study. Future research could also include a policy analysis by state/region and how pay rate is impacted. Indeed, future research should proceed in a three prong fashion. First, a representative nationwide survey should be conducted. From this survey, the organizations with the lowest and highest turnover rates could be compared and studied more in depth to reveal best practices to implement and worst practices to limit turnover. Finally, implementing best practices in high turnover

agencies could be studied to determine if these correlates work well as interventions. All turnover cannot and should not be eliminated, but it should be as limited as possible given its deleterious effects on agencies, and their financial situation, but most of all because of the potential short term and long term harm to its vulnerable clients.

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APPENDIX A

SURVEY INTRODUCTION

The purpose of this research project is to gather data on employee turnover and retention at ABA agencies. This is a research project by Corinne Thornton at Temple University. You are invited to participate in this research project, because you are an ABA provider agency.

Your participation in this research study is voluntary. You may choose not to participate. If you decide to participate in this research survey, you may withdraw at any time. If you decide not to participate in this study or if you withdraw from participating at any time, you will not be penalized.

The procedure involves completing online survey that will take approximately 10 minutes. The survey questions ask about workplace conditions that affect direct support staff at your agency. Your responses are confidential and we do not collect identifying information such as your name, email address or IP address.

All data are stored in a password protected electronic format. The results of this study will be used for scholarly purposes only, and may be presented at a regional or national ABAI meeting.

If you have any questions about this research study, please contact Corinne Thornton at tuf30833@temple.edu. This research has been reviewed according to Temple University IRB procedures for research involving human subjects.

By taking this survey, you indicate that:

- you have read the above information
- you voluntarily agree to participate
- you are at least 18 years of age

This survey will be available until Friday November 2, 2018

APPENDIX B

SURVEY

1. List up to 5 primary zip codes where the primary office(s) or location(s) of services are provided.
2. How many direct support staff did the agency employ during the period of January 1, 2017 to December 31, 2017?
3. How many direct support staff that were terminated from the agency during the period of January 1, 2017 to December 31, 2017.
4. How many direct support staff voluntarily separated from the agency during the period of January 1, 2017 to December 31, 2017?
5. What is the average length of employment of direct support staff measured in months?
6. How many direct support staff who hold the RBT or BCaBA designation?
7. What is the average starting hourly wage for direct support staff?
8. What is the average hourly wage for direct support staff?
9. Are direct support staff offered health insurance?
10. What types of benefits does the agency offer? Click all that apply. Paid Time Off, Tuition Reimbursement, Dental Insurance, BCBA Supervision, health insurance
11. Does the agency offer individual and company-wide incentives, such as bonuses, gym memberships?
12. Estimate the proportion of time where direct support staff provide non-residential support such as home/ community, school.

13. Estimate the proportion of services that are provided to children/adolescents versus adults.
14. How many hours of training are offered before direct support staff start providing services?
15. How many hours are offered through-out the year?
16. How many hours a week are direct support staff offered supervision?
17. How often is feedback provided to direct support staff?
18. Are pay raises merit based, annual or none at all?
19. What is the typical staff to client ratio?
20. Does the organization measure employee satisfaction?