ResearchGate

See discussions, stats, and author profiles for this publication at: https://www.researchgate.net/publication/281887297

Predictors of intention to turnover in behavior technicians working with individuals with autism spectrum disorder

Article *in* Research in Autism Spectrum Disorders · July 2015

DOI: 10.1016/j.rasd.2015.06.012

CITATIONS
18

READS
3,492

3 authors, including:

Ellie Kazemi
California State University, Northridge
26 PUBLICATIONS **174** CITATIONS

SEE PROFILE

Marnie Shapiro
6 PUBLICATIONS **62** CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:

Fire Saftey Training View project

Simulation-Based Training View project

All content following this page was uploaded by Ellie Kazemi on 15 June 2018.

The user has requested enhancement of the downloaded file.

Predictors of Intention to Turnover in Behavior Technicians Working with Individuals with Autism Spectrum Disorder

Ellie Kazemi[a*]

Marnie Shapiro[a,b]

Alyssa Kavner[a,c]

[a] California State University, Northridge (CSUN), Psychology Department, 18111 Nordhoff Street, CA 91330-8255, USA

[b] Easter Seals Southern California, 19750 S Vermont Ave., Ste. 140, Torrance, CA 90502, USA

[c] The Ohio State University, Department of Special Education & Applied Behavior Analysis, 305 W 17th Ave., Columbus, OH 43210, USA

[*]Corresponding author. E-mail address: ellie.kazemi@csun.edu

Abstract

Employee turnover has deleterious effects on clinical services such that it hinders service quality, damages the therapeutic relationship, and compromises company infrastructure. However, little is known about predictors of turnover for behavior technicians (BTs) who implement behavioral interventions with individuals with autism. Therefore, the aim of this study was to identify factors that serve as predictors of intention to turnover and provide a bedrock for direct assessment of strategies to reduce turnover amongst BTs. A total of 96 BTs from 19 different agencies in Southern California completed the entire online survey. We found that level of satisfaction with training, supervision, and pay (not their actual hourly pay), along with satisfaction with different aspects of the job (e.g., opportunities for advancement, praise for doing a good job) predicted BTs' intent to turnover. We discussed the potential implications of our findings for researchers interested in examining methods to minimize turnover and increase continuity of behavioral care for individuals with autism spectrum disorders.

Keywords: Turnover, Behavior Technician, Autism, Applied Behavior Analysis, Retention

1. Introduction

Employee turnover is a widespread source of concern for consumers of services as well as employers for several reasons. Turnover may hinder effective and efficient delivery of services (Kaff, 2004; Powell & York, 1992; Waldman, Kelly, Arora, & Smith, 2004) as remaining employees struggle to provide quality services when novice, untrained employees take the place of previous experienced colleagues (Powell & York, 1992). This disruption in the continuity of services and the reduction in service quality may negatively impact consumers' progress (Hatton et al., 2001; Hurt, Grist, Malesky, & McCord, 2013; Powell & York, 1992) or family life (Grindle, Kovshoff, Hastings, & Remington, 2009) and potentially affect parents' trust in the system of care. Turnover also impacts employers and the agencies providing support services. Specifically, losing employees and training replacements impedes productivity and places financial strain on the company (Arnold, 2005; Kiekbusch, Price, & Theis, 2003; Waldman et al., 2004). When employees leave, they take with them critical knowledge they acquired over time about the work position, the agency, and the consumers (Abbasi & Hollman, 2000; Harris, Kacmar, & Witt, 2005).

Turnover rates may also lower the remaining employees' morale (Byrd, Cochran, Silverman, & Blount, 2000), increase the workload of the remaining staff, and discourage eligible individuals from applying to open positions (see Lambert, 2006). Consequently, agency productivity is impacted by the time it takes to recruit, train, and acclimate new hires to the work setting (Mor Barak, Nissly, & Levin, 2001). In addition, the estimated financial cost of employee turnover may be up to 150% of an employee's salary (Ramlall, 2003). 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). Employers need mechanisms to predict and potentially minimize employee turnover when it's voluntary, given the deleterious effects of turnover on service provision and company infrastructure.

Numerous researchers (e.g., Billingsley, 2004; Hatton et al., 2001; Hewitt, Larson, & Lakin, 2000; Larson, Lakin, & Bruininks, 1998) have examined predictors (i.e., antecedents) of turnover for special education teachers, social workers, and residential facility staff who work with children and adults with or without intellectual and developmental disabilities. It is difficult, however, for researchers to study turnover directly because it is not practical to pursue employees who quit or to conduct retrospective studies without risking hindsight bias. For these reasons, Mor Barak et al. (2001), in their review of antecedents of turnover for human service employees, reported that researchers often used turnover intentions as their outcome variable. Dalessio, Silverman, and Schuck (1986) noted that from the employer's standpoint, intention to quit may be a more important variable to predict than the actual act because the employer could possibly institute changes to affect this intention. Additionally, the authors' noted that intention to quit was a precursor of turnover and has been the single strongest predictor of actual voluntary turnover (i.e., 60% of individuals that self-reported intent to turnover actually left within one year; Lambert, 2006; Dupré & Day, 2007). Although an extensive literature base on turnover exists, little is known about potential predictors of turnover or turnover intentions for behavior technicians (BTs) who implement behavior plans directly with consumers with autism spectrum disorders (ASD). The damaging effects of turnover on consumers and employers serve as compelling reasons to investigate turnover intentions specifically with this population. Therefore, our main objective was to conduct a survey of BTs who worked with individuals with ASD to

identify variables that best predicted their turnover intentions. Given the scant literature, we drew on research from similar professions (i.e., human service workers and special education teachers) in which the authors examined either turnover intentions, actual turnover of employees, or both.

1.1. The BT Position

BTs are typically the front-line staff in Applied Behavior Analysis (ABA)-services and they are the "paraprofessionals primarily responsible for the direct implementation of skill-acquisition and behavior-reduction plans developed by the supervisor" (Behavior Analyst Certification Board, "Definition," para. 1). BTs work in a variety of settings with various populations; however, a large proportion predominantly provide services to individuals with ASD because ABA-services are in high demand as a result of the extensive body of literature that has documented the successful use of this treatment approach for individuals with ASD and related disorders (e.g., Rogers and Vismara, 2008). The predictors of turnover for BTs who work with individuals with ASD may differ from other professionals (e.g., special education teachers) and paraprofessionals (e.g., staff at residential facilities) for several reasons. First, impairments in communication and reciprocal social interactions coupled with a restricted repertoire of activities and interests (American Psychiatric Association, 2000) set individuals with ASD apart from other individuals with special needs. Second, BTs are largely dependent on higher level staff for training and supervision because they are typically relatively inexperienced front-line staff who work face-to-face for extended periods of time with consumers, sometimes up to 40 hours a week (Howard, Sparkman, Cohen, Green, & Stanislaw, 2005; Hurt et al., 2013). Finally, BTs provide services in the context(s) in which consumers require support, for example in schools or in homes. Therefore, BTs frequently interact with other adults, for example teachers or parents, who may be stressed (Hastings & Johnson, 2001) and leery about the BTs' presence

in their environments (Grindle et al., 2009). Given the challenging nature of the position, it is not surprising that researchers have found that BTs self-report high levels of job stress and burnout and low levels of job satisfaction and personal accomplishment, (Griffith, Barbakou, & Hastings, 2014; Hurt et al., 2013; Jennett, Harris, & Mesibov, 2003), which have all been correlated with voluntary employee turnover in other professions (see Billingsley, 2004).

1.2. Turnover of Staff in Similar Professions

1.2.1. Predictors of turnover for direct support employees in residential facilities.

Turnover rates for direct support employees working with *adults* with intellectual disabilities in community residential facilities have been quite high (Hatton et al., 2001). The annual rate of voluntary turnover ranged from 45% to 75% (Hewitt, Larson, & Lakin, 2000; Larson, Lakin, & Bruininks, 1998), which was significantly higher than the average yearly voluntary turnover rates (i.e., approximately 17.9% in 2011) across all industries (Boushey & Glynn, 2012). Although sample sizes and measures to capture turnover in this population have varied extensively across studies, Larson et al., (1998) reported that researchers have identified various factors that serve as predictors of turnover or turnover intent, including employee characteristics (e.g., younger or more educated employees) and resident characteristics (e.g., challenging behavior). Compared to employees who remain, employees who intend to turnover 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; see Strouse, Carroll-Hernandez, Sherman, & Sheldon, 2004; Hatton & Emerson, 1993; Larson & Lakin, 1992; Larson et al., 1998; Razza, 1993). Akin to BTs, direct support employees offer services in a variety of

settings (e.g., vocational-based or resident-based) to consumers with a range of special needs (e.g., individuals with multiple developmental or physical disabilities); therefore, we expect some of the predictors of turnover to be similar for BTs.

1.2.2. Predictors of turnover for special education teachers and social workers.

Similar to direct staff in residential facilities, there is an increased risk of voluntary turnover intent amongst special education teachers (Billingsley, 2004). Compared to other special education positions, teachers working with students who presented with emotional or behavioral difficulties were more likely to report that they would leave their jobs (Kaff, 2004). For example, Adera and Bullock (2010) found that the main determinants of dissatisfaction and turnover intentions included job stressors related to student characteristics, such as challenging behaviors and a variety of cognitive, social, and emotional needs. Also, researchers have found that other student characteristics, such as grade level, related to turnover intent for special education teachers (e.g., secondary school teachers were more likely to leave their positions compared to elementary school teachers; Singer, 1993). For social workers, low levels of job satisfaction, younger age, and organizational commitment (to the field but not to the employing company) served as predictors of turnover intent (Mor Barak, Levin, Nissly, & Lane, 2006). Other factors consistently related to turnover intentions of both special education teachers and social workers were supervisory dimensions, including lack of emotional support, lack of interest in or assistance with employees' work, and infrequent constructive feedback (Billingsley, 1993; 2004; Littrell & Billingsley, 1994). Finally, researchers have examined the extent to which salary and employment benefits influence teachers' and social workers' turnover intentions. 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, Cluse-Tolar, Pasupuleti, Prior, & Allen, 2012; Russell, Williams, & Gleason-Gomez, 2010). These findings are consistent with the literature on direct support employees in residential facilities and deem further examination with BTs.

1.3. Potential Predictors of BT Turnover

Although there are similarities in roles and responsibilities between BTs and the aforementioned professions (e.g., working with at-risk populations), research gaps remain regarding factors that may lead to intentions to turnover in BTs. It is possible that the predictors of turnover for BTs are similar to special education teachers, social workers, and residential facility staff. Gibson, Grey, and Hastings (2009) conducted a survey with 81 BTs in Ireland and found that perceived supervisor support served as a moderator between work demands, personal accomplishment, and burnout. Symes, Remington, Brown, and Hastings (2006) interviewed 19 BTs who reported that thorough training and consumer characteristics (such as compliance, challenging behavior, and progress in treatment) served as influential factors in their ability to deliver ABA-services To date, however, no one has reported on turnover intentions of BTs. Therefore, the purpose of this study was to conduct a survey of BTs who work with individuals with ASD to determine if rates of turnover intent were in line with similar professions and whether the aforementioned variables (staff, consumer, job characteristics as well as satisfaction with training, perceived supervisory support, aspects of the job, and pay) predicted turnover intentions for BTs.

2. Material and Methods

2.1. Participants

We sent Institutional Review Board (IRB) approved fliers to ABA-agencies throughout the Los Angeles region and posted fliers at various ASD-related events (e.g., Autism Walk). To motivate employers to disseminate the research fliers and to encourage BTs to participate, we informed employers that, per IRB protocol, we could provide them with results specific to their agency if 20 or more employees participated in the study. We also informed employers that we would not release any identifying information regarding their agency name or employees who took part in the study. We discarded five cases after we compared IP addresses and survey responses to determine if there were duplicated responses. A total of 146 individuals who self-reported that they worked as BTs, which we confirmed by asking them about their general role and responsibilities, submitted the online survey. We narrowed our sample to the 96 BTs (i.e., 66%) who completed all of the questions relevant to this study (see Table 1 for detailed demographics). The 96 BTs represented 19 of the 37 ABA-agencies (i.e., 51%) to which we had sent fliers. Similar response rates were reported by other authors who conducted analogous survey studies (see Harris, Kacmar, & Witt, 2005; Ramlall, 2003).

BTs worked in agencies in Southern California providing ABA-services to individuals with ASD (median consumer age range was 3 –11 years). Out of the 96 respondents, we found that a majority were women (93%) with no children (84%) and between the ages of 21 to 25 years (48%)In addition, half of the respondents were Caucasian (50%) and a majority held an undergraduate degree (71%), worked at their current company for one year or less (19% and 38%, respectively), worked as a BT anywhere between one to two years (51%), worked part-time between 20–39 hours a week (54%), and primarily worked in a home-setting (56%) receiving 16 to 20 dollars an hour (53%). BTs also reported that a majority of their consumers

were preschool or elementary school- aged (47% and 39%, respectively) and they rated their average consumers' autism severity as moderate (65%).

2.2. Development of the Online Survey

Given the paucity of literature on potential predictors of turnover for BTs, we first reviewed the literature on turnover from related fields When possible, we adapted frequently used self-report measures or surveys in peer-reviewed publications that were reported to be reliable and valid.

2.2.1. Turnover intentions. Numerous researchers have found that intent to leave a company is an effective way of predicting actual turnover (Hendrix, Robbins, Miller, & Summers, 1998; Lambert, 2006; Mobley, Griffeth, Hand, & Meglino, 1979). In this study, we measured intent to leave the company by using two items from Dupré and Day (2007) to measure participants' likelihood of turnover (i.e., "I will leave my job if another job becomes available" and "I will stay at my job for as long as I can") on a 5-point Likert-type scale (1 = highly likely and 5 = highly unlikely). We recoded the items such that higher scores always reflected higher intent to turnover. The reliability, or correlation, between participants' responses on these items was strong and statistically significant (r (96) = .588, $p < .001$); therefore, we used the mean of these two items for our criterion variable in our regression analysis.

2.2.2. Satisfaction with training. We adapted the five training satisfaction items from Liu (2007) in which the author measured training satisfaction in medical representatives, another field with high turnover rates. We asked participants to rate their satisfaction with training (i.e., "The company provides enough initial training", "My training materials were not as extensive as I expected", "The training at my company allows me to be a better therapist, no matter where I

provide therapy", "I wish I could get additional training", and "My supervisor(s) provide(s) enough continuing training") on a 5-point Likert-type scale, which ranged from strongly disagree to strongly agree. The word "sales" was omitted in phrases such as "sales training" and the word "salesperson" was replaced with "therapist" to make the questions specific to BTs. The original scale had a Cronbach's alpha (a coefficient of internal consistency) of .71. In the present study, the Cronbach's alpha was .78 (alpha level > 0.7 is considered sufficient, >0.8 good, and > 0.9 excellent; George & Mallery, 2003).

2.2.3. Satisfaction with supervision. We used the short form from the Eisenberger, Stinglhamber, Vandenberghe, Sucharski, and Rhoades (2002) Supervision Satisfaction Scale. We asked participants to rate their satisfaction with supervision (i.e., "My supervisor(s) really cares about my well-being", "My supervisor(s) cares about my general satisfaction at work", "Even if I did the best job possible, my supervisor(s) would fail to notice", "My supervisor(s) show(s) very little concern for me", "My supervisor(s) care(s) about my opinions") on a 5-point Likert-type scale that ranged from strongly disagree to strongly agree. For the present study, we substituted the word "organization" with "supervisor" and used 5 of the 17 items with the highest reliability using the same standards the authors had used to develop the short form (see Eisenberger et al., 2002). Gibson, Grey, & Hastings (2009) also used this scale with the BTs they surveyed. The original scale had a Cronbach's alpha of .81, Gibson et al. (2009) reported a Crobach's alpha coefficient of .90 and our Cronbach's alpha was also .90.

2.2.4. Satisfaction with different aspects of their job. We used questions from the short form of the Manual for the Minnesota Satisfaction Questionnaire (Weiss, Davis, England, & Lofquist, 1967). The questionnaire is used to assess employees' satisfaction with different aspects of their jobs (e.g., "The chance to do something that makes use of my abilities", "The

chances for advancement on this job", "The praise I get from doing a good job", and "The way company policies are put into practice") on a 5-point Likert-type scale, which ranged from very dissatisfied to very satisfied. For the purposes of this study, we substituted the word "boss" with "supervisor". The original scale has 22 questions and had a Cronbach's alpha of .87. In our study, the Cronbach's alpha was .90, but we eliminated 11 items that overlapped with our other measures (e.g., questions about pay and supervision); the Cronbach's alpha of the 11 items we used for our analyses was .87.

2.2.5. Other variables of interest. We developed a series of questions, based on the results from our literature review and communications with BTs who provided suggestions based on their personal experiences. Specifically, we asked questions about *employees' characteristics* (e.g., "What is your age?" and "How many other companies have you worked for in this field providing behavior therapy?"), *consumer characteristics* (e.g., "On average, what do you feel is the level of severity of autism of your clients?"), and their *satisfaction with various company specific variables* (e.g., "How satisfied are you with your pay?", "What kind of benefits [i.e., health, dental and/or vision, cell phone, mileage] do you receive at your company?", "Are you currently over or under scheduled?", and "On average, how many miles per week do you drive while working?"). The final survey consisted of 62 questions.

2.3. Procedure

We directed potential participants to a website with IRB-approved consent information and a link to commence participating in the survey if they chose to proceed after reading the consent form. Participants could not save their progress (because they were anonymous), but we added a progress bar to the survey so that they could determine how much of the survey they had completed. Participants had to answer all questions on each page in order to move forward in the

survey, but we provided them with a "choose not to answer" option per our IRB protocol. We also allowed participants to go back and change their answers as they completed the survey. The entire survey took approximately 30 to 45 minutes to complete. In the survey, we reminded participants that it was important to provide honest answers and that their responses would remain completely anonymous. In addition, we ended the survey with positively worded questions ("Tell us about one of your most rewarding experiences at your current job").

3. Results

We conducted preliminary descriptive analyses and checked frequency distributions for all of the variables (see Tables 2 and 4 for means and standard deviations). We recoded all negatively worded items (e.g., my training was not as extensive as I expected) to facilitate interpretation of raw scores (i.e., higher scores indicates higher satisfaction). We computed composite scores, by obtaining sums of responses to the items divided by the total number of items in each scale, and internal consistency reliability coefficients (Cronbach's alpha) for each composite score (reported in the Method section). We reviewed the descriptive data and conducted a factorial ANOVA to assure that employment at a particular ABA-agency did not function as a predictor of turnover. We found that employment at one of the 19 agencies, alone, did not account for the majority of turnover intentions ($F = 0.53$, $df = 1, 94$, $p = .468$) before conducting follow-up analyses. With regards to employees' intent to leave, responses were widely spread such that 13 (i.e., 13.5%) BTs reported they were highly likely, 23 (i.e., 24%) said somewhat likely, 27 (i.e., 28.1%) said somewhat unlikely, and 17 (i.e., 17.7%) said they were highly unlikely to leave their job if another job became available. We also found that 16 (i.e., 16.7%) were neutral and said they were undecided.

3.1. Correlates of Turnover Intentions

For a detailed description of means, standard deviations, and intercorrelations, see Table 2. We computed a series of correlations to determine which variables were related to turnover intentions of BTs. We found that satisfaction with training, supervision, pay, and different aspects of their job were statistically significant correlates of turnover intentions such that as satisfaction decreased, intent to turnover increased [training, $r(96) = -.29$, $p = .004$; supervision, $r(96) = -.34$, $p = .001$; pay, $r(96) = -.33$, $p = .001$; and job $r(90) = -.59$, $p < .001$]. Furthermore, we found that BT's who reported being under scheduled or not getting enough work hours were more likely to report intent to turnover $r(93) = -.27$, $p = .009$].

We conducted follow-up analyses and found that satisfaction with training also correlated with the total number of hours of initial training that participants reported, $r(94) = .40$, $p < .001$ (see Table 3 for more specific information regarding participants' satisfaction with training and the average number of hours of initial training they reported). Although we found satisfaction with pay to be a statistically significant correlate of turnover intentions, actual pay (i.e., amount paid per hour) was not (see Table 4). Furthermore, we did not find a relationship between satisfaction with pay and *actual* pay. That is, higher pay did not relate to higher satisfaction with pay ($r(94) = .19$, $p = .07$). We also examined other variables we suspected might be important to this population based on the results from our literature review and informal discussions with BTs (See Table 4 for details), but found that none of the variables were correlated with turnover intentions.

3.2. Predictors of turnover

Before conducting the regression analyses, we followed the steps recommended by Tabachnick and Fidell (2001) to check that our data met the assumptions. We inspected

scatterplots of each predictor variable (satisfaction with training, supervision, pay, different aspects of the job, and the criterion variable (turnover intent) and checked for linearity. We also plotted the residuals and visually inspected homoscedasticity and distributions. We did not have any significant outliers that represented the data set or multicollinearity (based on the Tolerance/VIF values). We sequentially eliminated or added variables, which correlated with turnover intent, to determine the simplest model that was sufficient to predict turnover intentions. A forward regression allowed us to input each potential predicator of turnover into the regression model until further addition of items did not produce a significant change in R squared. The overall regression model was significant (F (4, 85) = 12.9 p < .001). Based upon the R-Squared statistics, satisfaction with training accounted for 8.8% of the variance in turnover. Satisfaction with training *and* supervision accounted for 14.3% of the variance. Satisfaction with training, supervision, *and* pay accounted for 20.8% of the variance. Finally, satisfaction with training, supervision, pay, and different aspects of their job accounted for 37.9% of the variance. Therefore, about 38%of the variability in turnover can be explained by satisfaction with training, supervision, pay, and different aspects of the job (see Table 5). It is important to note that we also included satisfaction with scheduling (i.e., “Are you currently under scheduled?”) in our regression model because it was significantly correlated with turnover intent; however, it did not produce a significant R-squared change and was removed from the model.

4. Discussion

Despite the widespread recognition that turnover may hinder effective and efficient delivery of services, we found no previously published studies aimed at identifying factors that predict turnover for BTs who work with individuals with ASD. Therefore, we conducted a survey with 96 BTs who worked with individuals with ASD to determine variables that best

predicted their turnover intentions. We found that about 38% of our participants reported they were highly or somewhat likely to leave their jobs (compared to about 17.9% of the total workforce; Boushey & Glynn, 2012). We could also explain approximately 38% of the variance in turnover intentions based on participants' self-reported satisfaction with their training, supervision, pay, and different aspects of their job (e.g., co-workers, remuneration, working conditions). Similarly, researchers have explained anywhere between 6% and 25% of the variability in turnover previously (Griffeth et al., 2000; Lambert, 2006). Additionally, the variables we identified as predictors of turnover for BTs are similar to what the previous authors reported in special education teachers, social workers, and residential staff. However, we found that some factors identified as predictors of turnover in other human service professions, for example employee characteristics (e.g., age, level of education), consumer characteristics (age, severity of disability), and certain agency characteristics (e.g., context in which services were provided, actual amount earned per hour, receipt of benefits) did not predict turnover intent in our sample. One reason our findings differed from previous research with regards to consumer characteristics may be because we asked BTs to report on these characteristics. Additionally, BTs were constrained to reporting averages across their consumers (e.g., average severity of autism), which limited these results.

One major implication of this study is that future research on BT turnover needs to focus on evaluating if specific changes in training, and perhaps initial training, reduces voluntary turnover and increases satisfaction with training among BTs who work with individuals with ASD. In this study, we measured satisfaction with training with 5-items from Liu (2007) to which participants strongly agreed or disagreed (on a 5-point Likert Scale) with items such as, "The company provides enough initial training", "my training allows me to be a better therapist

no matter where I am", and "I wish I could get additional training." We found that satisfaction with training was correlated with the total number of hours of initial training and that participants reported they had enough initial training if they received about 30hr or more total training (see Table 3). However, our results are limited because the duration of training was reported by the BTs and the standard deviations (see Table 3) were high indicating considerable variability across participants' responses. Our findings suggest a need for more research to identify optimal duration, pace, and density of training as well as the specific determinants of high training satisfaction.. Some of this research is currently underway. For example, recently Strohmeier, Mulé, and Luiselli (2014) assessed the social validity of training methods and found that special education service providers judged performance feedback as the most likely, and the most effective, method to improve their treatment integrity. Additionally, researchers have provided some guidelines for effective training (Behavioral Skills Training, BST; Parsons, Rollyson, & Reid, 2013) as well as how to assess and improve staff performance (Carr, Wilder, Majdalany, Mathisen, & Strain, 2013). In sum, future research would benefit from evaluating the effects of conducting periodic assessments of trainees' performance, providing evidence-based training and performance feedback, assessing employees' satisfaction with trainings, and improving trainings based on BT' reported needs.

Another major implication of the results of our study is that to reduce voluntary turnover among BTs who work with individuals with ASD, in the future researchers can focus on improving supervision methods. Although training and supervision are constructs that overlap, for this study we assured that our questions about supervision did not refer to initial or continued training. We measured satisfaction with supervision with items from Eisenberger et al., (2002).. Because the items referred to how supervisors provide feedback or interpersonally engage with

supervisees with regards to their work performance, our findings provide some evidence that in the future researchers should target and experimentally evaluate the effects of training supervisors to ask supervisees how they are doing and provide performance feedback (see Reid, Parsons, & Green, 2011 for suggestions for supervisors). Our findings are in line with previous researchers who have reported that effective supervision practices that include the provision of emotional and professional support, guidance, and performance feedback can serve as buffers against the adverse effects of working in child welfare agencies (Firth, Mellor, Moore, & Loquet, 2004; Mor Barak, Travis, Pyun, & Xie, 2009) and may contribute to employee retention (Landsman 2001; Mor Barak et al., 2006). Lastly, researchers can examine if employers would benefit from obtaining period feedback about supervisors and making adjustments to supervisory practices based on BT's feedback about the supervision they receive.

Some other major implications of the results of our study are that in the future researchers can target and evaluate methods to increase employees' satisfaction with their pay as well as with their job to reduce voluntary turnover among BTs. It is important to note that although satisfaction with pay was a significant predictor of turnover intentions, actual pay (i.e., pay per hour) was not, and we did not find a statistically significant relationship between satisfaction with pay and actual pay (e.g., an employee who made $16 per hour may have reported high satisfaction with pay, whereas an employee who made $25 per hour may have reported low satisfaction with pay). Thus, how much BTs were paid did not appear to offset their turnover intentions. This finding is in line with previous researchers who have reported that, although pay matters, simply paying people more is not the best way to attract, keep, or motivate talented employees (Hale, 1998). For employers, this finding may be encouraging because increases in pay for all BTs may not be practical. Future research can examine if goal setting, choice of pay

plans, group pay-for-performance, and other similar organizational behavioral strategies that have been reliably correlated with pay satisfaction (see for example, Hollensbe & Guthrie, 2000) increase BTs' satisfaction with their pay. Alternatively, BT's responses on the job satisfaction questionnaire indicated that future research should evaluate the effects of creating an infrastructure that provides opportunities for advancement, for employees to apply their skills, and for employees to feel that their hard work or high quality work is noticed. In a survey of 614 organizations that employed 3.5 million workers, Hale (1998) found that lack of opportunities for advancement and enrichment was more important to employees that left their jobs than dissatisfaction with pay. Organizational behavior management consultants, therefore, recommend strategic reward systems that incorporate merit-based and competency-based pay increases for performance that is clearly defined and related to the organizations' overall goals (e.g., Hale, 1998, or see Methot, 2012 for a behavioral perspective on improving organizational performance).

To our knowledge, this is the first study to examine predictors of turnover intent for BTs who work with individuals with ASD and the implications of our findings could be very useful for researchers seeking to decrease employee turnover. However, the results of this study should be interpreted with caution for the following reasons. First, we relied solely on a commonly used methodology to evaluate turnover and turnover intent (i.e., self-reports) and potential limitations inherent in self-reports (e.g., response bias and poor correspondence between what we say and what we do) should be considered. Second, even though participants were repeatedly informed that their participation was anonymous, they were asked to answer questions pertaining directly to the services they offered through their place of employment, which may have impacted their self-reports. Third, there may be a selection bias in that individuals who were motivated to

participate in this study may have been systematically different from those who did not volunteer to participate (e.g., interested in bettering the field and remaining at their company). Fourth, the length of the survey (i.e., at minimum 30 to 45 minutes to complete) may have led to fatigue, which could explain why only 146 BTs submitted the survey and even fewer (i.e., 96) responded to all of the items. Finally, BTs in this sample were young, had primarily only a bachelor's level education, and lived in Southern California, which has one of the highest costs of living. Thus, the findings may not be representative of BTs nationwide or internationally.

In conclusion, turnover may hinder effective and efficient service delivery and is costly for employers. Despite the noted limitations, our findings suggest potential points for intervention by future researchers who wish to evaluate evidence-based methods to decrease employee turnover. Moreover, we believe that employers of BTs now have some answers as to why their employees may choose to leave or remain and do not have to rely on subjective accounts or anecdotal reports from employees who left. By understanding potential predictors of turnover intentions for BTs, employers can begin to examine and modify existing work conditions to evaluate the effects of providing BTs with the training, supervision, and support they need to remain dedicated to their employment and continue to make positive change in their lives consumers of ABA-services.

References

Abbasi, S., & Hollman, K. (2000). Turnover: The real bottom-line. *Public Personnel Management, 29,* 333–342.

Adera, B. A., & Bullock, L. M. (2010). Job stressors and teacher job satisfaction in programs serving students with emotional and behavioral disorders. *Emotional & Behavioural Difficulties, 15,* 5–14. doi:10.1080/13632750903512365

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.

Arnold, E. (2005). Managing human resources to improve employee retention. *The Health Care Manager, 24,* 132–140.

Behavior Analyst Certification Board (2014). *Definition.* Retrieved July 7th, 2014 from http://www.bacb.com/index.php?page=101118

Billingsley, B. S. (1993). Teacher retention and attrition in special and general education: A critical review of the literature. *Journal of Special Education, 27,* 137–174. doi: 10.1177/002246699302700202

Billingsley, B. S. (2004). Special education teacher retention and attrition: A critical analysis of the research literature. *Journal of Special Education, 38,* 39–55. doi:10.1177/00224669040380010401

Boushey, H., & Glynn, S. J. (2012, November). There are significant business costs to replacing employees. Retrieved from http://americanprogress.org/issues/labor/report/2012/11/16/44464/there-are-significant-business-costs-to-replacing-employees/

Byrd, T., Chochran, J., Silverman, I., & Blount, W. (2000). Behind bars: An assessment of the

effects of joba satisfaction, job-related stress, and anxiety of jail employees inclinations to quit. *Journal of Crime and Criminal Justice, 23*, 69—89.

Carr, J. E., Wilder, D. A., Majdalany, L., Mathisen, D., & Strain, L. (2013). An assessment-based solution to a human-service employee performance problem: An initial evaluation of the Performance Diagnostic Checklist—Human Services. *Behavior Analysis in Practice*, *6*(1), 16–32.

Dalessio, A., Silverman, W., & Schuck, J. (1986). Paths to turnover: A re-analysis and review of existing data on the Mobley, Horner, and Hollingsworth's turnover model. *Human Relations, 39*, 245—264.

Dupré, K. E., & Day, A. L. (2007). The effects of supportive management and job quality on the turnover intentions and health of military personnel. *Human Resource Management, 46,* 185–201. doi: 10.1002/hrm.20156

Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I. L., & Rhoades, L. (2002). Perceived supervisor support: Contributions to perceived organizational support and employee retention. *Journal of Applied Psychology, 87,* 565–573. doi:10.1037/0021-9010.87.3.565

Firth, L., Mellor, D. J., Moore, K. A., & Loquet, C. (2004). How can managers reduce employee intention to quit? *Journal of Managerial Psychology, 19,* 170–187. doi: 10.1108/02683940410526127

George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference*. Boston, MA, US: Allyn & Bacon.

Gibson, J.A., Grey, I.M., & Hastings, R.P. (2009). Supervisor support as a predictor of burnout and therapeutic self-efficacy in therapists working in ABA schools. *Journal of Autism and Developmental Disorders, 39*, 1024–1030. doi: 10.1007/s10803-009-0709-4.

Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. *Journal of Management*, *26,* 463–488. doi:10.1177/014920630002600305

Griffith, G.M., Barbakou, A., Hastings, R.P. (2014). Coping as a predictor of burnout and general health in therapists working in ABA schools, *European Journal of Special Needs Education*, *29*, 548–558, doi:10.1080/08856257.2014.952915

Grindle, C. F., Kovshoff, H., Hastings, R. P., & Remington, B. (2009). Parents' experiences of home-based applied behavior analysis programs for young children with autism. *Journal of Autism and Developmental Disorder, 39,* 42–56. doi: 10.1007/s10803-008-0597-z

Hale, J. (1998). Strategic rewards: Keeping your best talent from walking out the door. *Compensation & Benefits Management, 14* (3), 39–50.

Harris, K. J., Kacmar, K. M., & Witt, L. A. (2005). An examination of the curvilinear relationship between leader-member exchange and intent to turnover. *Journal of Organizational Behavior, 26*, 363–378. doi: 10.1002/job.314

Hastings, R. P., & Johnson, E. (2001). Stress in UK families conducting intensive home-based behavioral intervention for their young child with autism. *Journal of Autism & Developmental Disorders, 31,* 327–336. doi:10.1023/A:1010799320795

Hatton C. & Emerson E. (1993). Organizational predictors of staff stress, satisfaction, and intended turnover in a service for people with multiple disabilities. *Mental Retardation, 31,* 388–395.

Hatton, C., Hatton, C. C., Emerson, E. E., Rivers, M. M., Mason, H. H., Swarbrick, R. R.,… Alborz, A. A. (2001). Factors associated with intended staff turnover and job search behaviour in services for people with intellectual disability. *Journal of Intellectual Disability Research, 45,* 258–270. doi:10.1046/j.1365-2788.2001.00321.x

Hendrix, W. H., Robbins, T., Miller, J., & Summers, T. P. (1998). Effects of procedural and distributive justice on factors predictive of turnover. *Journal of Social Behavior & Personality, 13,* 611–632.

Hewitt, A., Larson, S. A., & Lakin, K. C. (2000). *An independent evaluation of the quality of services and system performance of Minnesota's Medicaid Home and Community Based Services for persons with mental retardation and related conditions.* Minneapolis, MN: University of Minnesota, Research and Training Center on Community Living.

Hollensbe, E. C., & Guthrie, J. P. (2000). Group pay-for-performance plans: The role of spontaneous goal setting. *Academy of Management Review*, *25*, 864-872.

Howard, J. S., Sparkman, C. R., Cohen, H. G., Green, G., & Stanislaw, H. (2005). A comparison of intensive behavior analytic and eclectic treatments for young children with autism. *Research in Developmental Disabilities, 26,* 359–383.

Hurt, A. A., Grist, C., Malesky, L. R., & McCord, D. M. (2013). Personality traits associated with occupational 'burnout' in ABA therapists. *Journal of Applied Research in Intellectual Disabilities, 26,* 299–308. doi:10.1111/jar.12043

Jennett, H. K., Harris, S. L., & Mesibov, G. B. (2003). Commitment to philosophy, teacher efficacy, and burnout among teachers of children with autism. *Journal of Autism and Developmental Disorders, 33,* 583–593. doi:10.1023/B:JADD.0000005996.19417.57

Kaff, M. S. (2004). Multitasking is multitaxing: Why special educators are leaving the field. *Preventing School Failure, 48,* 10–17.

Kiekbusch, R., Price, W. H., & Theis, J. (2003). Turnover predictors: Causes of employee turnover in sheriff-operated jails. *Criminal Justice Studies: A Critical Journal of Crime, Law, and Society, 16,* 67–76.

Lambert, E. G. (2006). I want to leave: A test of a model of turnover intent among correctional staff. *Applied Psychology in Criminal Justice, 2,* 57–83.

Lambert, E. G., Cluse-Tolar, T., Pasupuleti, S., Prior, M., & Allen, R. I. (2012). A test of a turnover intent model. *Administration in Social Work*, *36,* 67–84. doi:10.1080/03643107.2010.551494

Landsman, M. J. (2001). Commitment in public child welfare. *Social Service Review, 75*, 386–419. doi: 10.1086/322857.

Larson, S. A., & Lakin K. C. (1992). Direct-care staff stability in a national sample of small group homes. *Mental Retardation, 30,* 13–22.

Larson, S. A., Lakin, K. C., & Bruininks, R. H. (1998). *Staff recruitment and retention: Study results and intervention strategies*. Washington, DC: American Association on Mental Retardation.

Littrell, P. C., & Billingsley, B. S. (1994). The effects of principal support on special and general educators' stress, job satisfaction, school commitment, health, and intent to stay in teaching. *Remedial and Special Education, 15,* 297–311. doi:10.1177/074193259401500505

Liu, C. (2007). The early employment influences of sales representatives on the development of organizational commitment. *Employee Relations, 29,* 5–15. doi: 10.1108/01425450710714441

Mobley, W. H., Griffeth, R. W., Hand, H. H., & Meglino, B. M. (1979). Review of conceptual analysis of the employee turnover process. *Psychological Bulletin, 86,* 493–522. doi: 10.1037/0033-2909.86.3.493

Mor Barak, M. E., Levin, A., Nissly, J. A., & Lane, C. J. (2006). Why do they leave? Modeling child welfare workers' turnover intentions. *Children and Youth Services Review, 28,* 548–577.

Mor Barak, M. E., Nissly, J. A., & Levin, A. (2001). Antecedents to retention and turnover among child welfare, social work, and other human service employees: What can we learn from past research? A review and metanalysis. *Social Service Review, 75,* 625–661. doi: 10.1086/323166

Mor Barak, M. E., Travis, D. J., Pyun, H., & Xie, B. (2009). The impact of supervision on worker outcomes: A meta-analysis. *Social Service Review, 83,* 3–32. doi: 10.1086/599028

Parsons, M. B., Rollyson, J. H., & Reid, D. H. (2013). Teaching practitioners to conduct behavioral skills training: A pyramidal approach for training multiple human service staff. *Behavior Analysis in Practice*, *6*(2), 4–16.

Powell, M. J., & York, R. O. (1992). Turnover in county public welfare agencies. *Journal of Applied Social Sciences, 16,* 111–127.

Ramlall, S. (2003). Managing employee retention as a strategy for increasing organizational competitiveness. *Journal of Applied Human Resource Management Research, 8,* 63–72.

Razza, N. J. (1993). Determinants of direct-care staff turnover in group homes for individuals with mental retardation. *Mental Retardation, 31,* 284–291.

Reid, D. H., Parsons, M. B., & Green, C. W. (2011). *The supervisor training curriculum: Evidence-based ways to promote work quality and enjoyment among support staff*.

Washington, DC, US: American Association on Intellectual and Developmental Disabilities.

Rogers, S. K., & Vismara, L. A. (2008). Evidence-based comprehensive treatments for early autism, *Journal of Clinical Child & Adolescent Psychology, 37* (1), 8–38. doi: 10.1080/15374410701817808.

Russell, E., Williams, S.W., & Gleason-Gomez, C. (2010). Teachers' perceptions of administrative support and antecedents of turnover. *Journal of Research in Childhood Education, 24,* 195–208. doi:10.1080/02568543.2010.487397

Singer, J. D. (1993). Are special educators' career paths special? Results from a 13-year longitudinal study. *Exceptional Children, 59,* 262–279.

Strohmeier, C. Mulé, C. and Luiselli, J. K. (2014). Social validity assessment of training methods to improve treatment integrity of special education service providers, *Behavior Analysis in Practice*, *7*, 15–20.

Strouse, M. C., Carroll-Hernandez, T. A., Sherman, J. A., & Sheldon, J. D. (2004). Turning over turnover, *Journal of Organizational Behavior Management*, *23*, 45–63. doi: 10.1300/J075v23n02_04

Symes, M. D., Remington, B., Brown, T., & Hastings, R. P. (2006). Early intensive behavioral interventions for children with autism: Therapists' Perspectives on achieving procedural fidelity. *Research in Developmental Disabilities, 27* (1), 30–42. doi: 10.1016/j.ridd.2004.07.007.

Tabachnick, B. G., & Fidell, L. S. (2001). Using multivariate analysis. *California State University Northridge: Harper Collins College Publishers*.

Waldman, J. D., Kelly, F., Arora, S., & Smith, H. L. (2004). The shocking cost of turnover in healthcare. *Health Care Management Review, 35,* 206–211.

Weiss, D. J., Davis, R. V., England, G.W., & Lofquist, C. H. (1967). *Manual for the Minnesota Satisfaction Questionnaire.* Minneapolis, MN: University of Minnesota, Industrial Relations Center.

Table 1

Description of Behavior Technicians (N = 96)

	N	%		*N*	%
Gender			**Years worked at current company**		
Female	89	93	< 1	36	38
Male	7	7	1	18	19
			2	22	23
Age			3+	19	20
21-25	46	48	**Academic grade of consumers**		
26-29	28	29	Early intervention (≤ 3)	4	4
30-35	13	14	Pre-school	45	47
36+	9	9	Elementary school	37	39
			Junior high	2	2
Ethnicity			High school & above	3	3
Euro-American/Caucasian	48	50			
Latino-American	13	14	**Severity of consumers' autism**		
African-American	6	6	Mild	16	17
Other	25	26	Moderate	62	65
			Severe	13	14
Highest level of education					
High school/GED	4	4	**Work environment**		
2 years	11	11	Home	54	56
4 years	68	71	School	12	13
M.A./M.S.	11	11	Both home & school	30	31
Ph.D./Psy.D./M.D./J.D.	2	2			
			Hourly pay		
Years worked in the field (ABA)			$10-15	16	17
< 1	5	5	$16-20	51	53
1	27	28	$21-25	18	19
2	22	23	$26+	9	9
3	17	18			
4+	25	26	**Work hours/week**		
			< 20	20	21
Number of other companies worked			20-39	52	54
None	54	56	40+	24	25
1	29	30			
2	12	13	**Receipt of benefits**		
3	1	1	Yes	56	58
			No	40	42

Note. Percentages do not all add to 100 due to the "Choose not to answer" option

Table 2

Intercorrelations, Means, and Standard Deviations for Turnover Intent and Predictor variables (N = 96)

	2	3	4	5	6	*M*	*SD*
1. Turnover intent	-.29*	-.34**	-.33**	-.59**	-.27*	3.54	1.18
2. Satisfaction with training	-	.48**	.21*	.55**	-.07	3.58	.80
3. Satisfaction with supervision		-	.29*	.57**	.03	4.04	.90
4. Satisfaction with pay			-	.37**	-.10	3.36	1.14
5. Satisfaction with the job				-	-.15	4.00	.90
6. Are you currently under scheduled					-	-	-

Note. $p \leq .05$*, $p \leq .001$**

Items 1 through 5, the negative correlation indicates that as satisfaction decreased, intent to turnover increased.

Item 6 was rated on a 3-point Likert scale (1 = “No”, 2 = “Yes because work has overlapped with school courses”, and 3 = “Yes because my company cannot provide me with enough hours”)

Table 3

Means, Medians, and Standard Deviations of the Total Initial Training Hours with Respect to their Satisfaction

	N	*M*	*Mdn*	*SD*
The company provides enough initial training				
Strongly Disagree	4	14.5	17.0	10.5
Disagree	12	23.8	22.0	16.9
Can't Decide	8	28.6	28.0	21.3
Agree	38	37.8	27.5	29.9
Strongly Agree	34	52.4	60	24.8

Table 4

Intercorrelations, Means, and Standard Deviations for Turnover Intent and Non-significant Predictor Variables

	N	*R*	*M*	*SD*
Turnover intent				
Employee characteristics				
1. Age	96	.13[1]	27.8	6.9
2. Number of children	96	-.10[1]	1.2	.5
3. Level of education	96	.01[2]	-	-
4. Number of years in field	96	-.03[1]	3.1	3.6
5. Number of years at company	96	.04[1]	2.4	1.4
6. Highest education goal	96	-.24[2]	-	-
7. Number of companies worked at	96	.01[1]	.58	.75
Consumer characteristics				
8. Age	91	-.02[1]	2.5	.81
9. Severity of autism	91	-.14[2]	-	-
Company characteristics				
10. Number of hours spent travelling	95	.05[1]	89.4	78.7
11. Over scheduled	93	-.16[2]	-	-
12. Number of hours worked per week	96	.02[1]	29.2	11.4
13. Context services provided	96	-.08[2]	-	-
Company benefits or wages				
14. Amount earned per hour	96	-.04[1]	19.5	4.3
15. Receipt of benefits	96	.03[3]	-	-

Note. Superscript numbers next to correlations represent the type of correlation conducted: 1 = Pearson; 2 = Point–Biserial; and 3 = Phi Coefficient.

Table 5

Results for Forward Sequential Regression

Model	R-squared	df1	df2	*p*
1	.088	1	88	.004
2	.143	2	87	.001
3	.208	3	86	< .001
4	.379	4	85	< .001

Note. Model 1 = Satisfaction with training.
Model 2 = Satisfaction with training and supervision.
Model 3 = Satisfaction with training, supervision, and pay.
Model 4 = Satisfaction with training, supervision, pay, and the job.

View publication stats