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The experiences of behavior interventionists who work with children with autism in families' homes

MIRIAM ELFERT *University of British Columbia, Canada*

PAT MIRENDA *University of British Columbia, Canada*

ABSTRACT This study examined the experiences of 65 behavior interventionists (BIs) who provide 1:1 home-based instruction to children with autism in two Canadian provinces. Dependent variables included occupational stress; the relationships among stress, strain, and coping; the relationship between stress and the characteristics of both challenging families and children with autism; and the most and least rewarding aspects of BIs' jobs. The two most stressful work roles for BIs were role overload (the extent to which job demands exceed personal/workplace resources) and role boundary (the extent to which the individual experiences conflicting role demands at work). Significant relationships were found between coping and both stress and strain; however, coping did not moderate the relationship between stress and strain. Significant correlations were found between BI stress and both sensory-related behaviors and social unrelatedness in children with autism. The implications for the BIs, the families, and the agencies are discussed.

KEYWORDS *autism; behavior intervention; Canada; coping; family; stress*

ADDRESS *Correspondence should be addressed to:* PAT MIRENDA, *PhD, Faculty of Education, University of British Columbia, 2125 Main Mall, Vancouver, BC V6T 1Z4, Canada. e-mail: pat.mirenda@ubc.ca*

There is growing recognition of the importance of providing early intensive intervention to young children with autism spectrum disorders (ASDs) (Maurice, 1993; Smith, 2001). Many intervention models are based on the principles of applied behavior analysis (ABA) and employ a technique called discrete trial teaching (DTT) to teach new skills. DTT consists of small units of instruction (i.e. 'trials') that are typically delivered by someone trained to work with a child with ASD on a one-to-one basis for several hours each day in the family's home (Smith, 2001). At the time of this study, DTT was being widely used in government-funded intensive

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early intervention programs for young children with ASD in the Canadian provinces of British Columbia and Alberta.

In this article, we use the term *behavior interventionist* (BI) to refer to the individuals who carry out home-based ABA interventions with children with ASD, under the guidance of a behavior consultant or behavior analyst. Typically, BIs are college or university students with a wide range of backgrounds in areas such as education or psychology. BIs are trained to use DTT and other behavioral techniques to teach skills in the areas of cognition, language/communication, and social development, as well as to record data and implement programs designed to remediate problem behavior (Leaf and McEachin, 1999).

Because BIs work intensively with children with ASD for a number of hours each week in families' homes, they encounter a variety of challenges related to their experiences with both the child and his/her family. For example, a child's learning progress may be slow and/or the child may engage in problem behaviors (Maurice, 1993). In addition, BIs often 'become a fixture in the home and [are] privy to the most carefully guarded information about family strengths and weaknesses' (Scott, 1996, p. 231). Maintaining professional boundaries when working so closely with families can be extremely difficult and BIs' constant exposure to families' private lives can result in enmeshment and high levels of stress (Elfert, 2002).

Given the important roles played by BIs in early intervention for children with ASD, it is surprising that no research to date has examined the experiences of these particular individuals in detail. However, researchers have examined the complex roles of other types of 'home visitors' (HVs) who provide assistance to families in their homes, such as community nurses and early childhood special educators (Wasik and Bryant, 2001). Past research suggests that HVs often experience significant levels of occupational stress as a result of factors such as (1) workload and time constraints; (2) difficult clients; (3) feelings of isolation and/or inadequacy; (4) role ambiguity or unclear role definitions; (5) lack of training; (6) change or instability at work; (7) conflict with other team members; and (8) difficulty maintaining professional boundaries with families (Elfert, 2002; Fletcher et al., 1991; McBride and Peterson, 1997; Stewart and Arklie, 1994). A smaller body of research has also examined the coping strategies used by HVs, which typically include (1) problem solving and direct action; (2) resignation; (3) avoidance; and (4) seeking emotional/social support from others (e.g. Fletcher et al., 1991; West and Savage, 1988a; 1988b).

As reflected in the HV literature, the relationship between occupational stress and coping has been the topic of considerable research over the years. One theoretical framework for describing this relationship, referred to here

as the stress, strain and coping (SSC) model (Osipow and Davis, 1988; Osipow and Spokane, 1984), hypothesizes a complex interaction between occupational stress, strain, and coping resources. Occupational stress is seen as having significant consequences – namely psychological strain – that can affect an individual's work performance. However, high occupational stress does not by itself result in psychological strain; rather, an individual's coping resources must be accounted for in order to predict the degree of strain experienced. In this model, occupational stress is associated with performing one or more specific stress-inducing 'work roles': (1) role overload, (2) role insufficiency, (3) role ambiguity, (4) role boundary, (5) responsibility, and (6) physical environment (Osipow, 1998).

The SSC model appears to account for many of the major stressors experienced by BIs who work with children with ASD in families' homes and also provides a theoretical framework for examining the relationship between stress and coping in these individuals. Such an examination is warranted because of the key role that BIs play in early intervention programs for children with ASD. Typically, most (if not all) of the training provided to these individuals is focused on enabling them to teach new skills to children with ASD, with little or no attention given to strategies for working with families and other professionals. The purpose of this study was to answer a number of related questions in this regard:

- What specific work roles are identified by BIs as most stressful?
- What are the relationships between specific types of occupational stress and characteristics of both children with ASD and their families?
- What are the relationships among stress, strain, and coping for BIs?

Method

Participants

BIs were recruited who met the following criteria: (1) they provided 1:1 intervention to one or more children with ASD in families' homes using ABA principles; (2) they had worked as BIs for at least 6 months at the time of the study; and (3) they worked for one of six organizations in western Canada whose directors agreed to participate. On the consent form for the study, participants were assured that their individual responses would not be shared with their employers and that the data would not be analyzed separately for each organization. A total of 87 individuals were identified across all six agencies as potential participants; of these, 65 (75%) agreed to participate.

The participants completed a brief demographic survey form at the beginning of the study. Two of the participants were males and 63 were

females, and the mean age was 27.3 years (SD = 5.9; range = 20 to 46 years). The mean years of formal education for the entire group was 14.9 years (SD = 1.5; range = 12 to 18 years). On average, the participants had worked with children with ASD for 35.4 months (SD = 34.0; range = 6 to 180 months) and had been employed in their current agency for 18.5 months (SD = 15.0; range = 6 to 100 months). They worked a mean of 29.3 hours per week (SD = 11.6; range = 4 to 44 hours) with an average of two families/children each (SD = 0.81; range = 1 to 4). Information was also gathered about the inservice training participants had received from their current employers. Participants' training varied widely in terms of both type and quantity; the two most common formats included workshops/lectures (mean = 32.8 hours) and reading training manuals (mean = 17.6 hours).

Setting and instrumentation

Participants met once as a group within each of the six cooperating organizations to complete the research instruments, which included (1) a demographic form designed for the study, (2) the Occupational Stress Inventory–Revised Edition (Osipow, 1998), (3) an adapted version of the Family Environment Scale (Moos and Moos, 1994), and (4) the Autism Behavior Checklist (Krug et al., 1993). The order of presentation of the instruments was counterbalanced across participants, to control for an order effect.

Occupational Stress Inventory–Revised Edition Three scales comprising the Occupational Stress Inventory–Revised Edition (OSI–R: Osipow, 1998) were used to measure various aspects of occupational adjustment. The standard OSI–R instruction sheet was modified slightly in order to frame the questions within the context of the organizations for which the BIs worked. Respondents rated statements on the OSI–R on a five-point Likert scale ranging from 1 (rarely/never true) to 5 (true most of the time).

Occupational stress was measured using the Occupational Roles Questionnaire (ORQ), which comprises 60 items representing six scales. Role overload (RO) measures the extent to which job demands exceed resources and the extent to which the individual is able to accomplish workloads. Role insufficiency (RI) assesses the degree to which the individual's training, education, skills, and experience are appropriate for the job requirements. Role ambiguity (RA) determines whether priorities, expectations, and evaluation criteria are clear to the individual. Role boundary (RB) measures the extent to which the individual is experiencing conflicting role demands and loyalties in the work setting. Responsibility (R) examines how responsible the individual feels for the performance and

welfare of coworkers. Physical environment (PE) assesses whether the individual is exposed to high levels of environmental toxins or extreme physical conditions. High scores on the ORQ are indicative of high levels of occupational stress.

Psychological strain was measured with the Personal Strain Questionnaire (PSQ), which comprises 40 items classified into four categories. Vocational strain (VS) measures the extent to which the individual is having difficulties with work quality or production. Psychological strain (PSY) determines the extent of psychological and/or emotional problems experienced by the individual. Interpersonal strain (IS) assesses the degree of disruption in interpersonal relationships. Physical strain (PS) measures complaints about physical illness and/or poor self-care habits. Similar to the ORQ, high scores on the PSQ indicate high levels of psychological strain.

Finally, coping resources were measured using the Personal Resources Questionnaire (PRQ), a 40-item questionnaire divided into four scales. Recreation (RE) determines how much the individual makes use of and derives pleasure from regular recreational activities. Self-care (SC) assesses the degree to which the individual regularly engages in personal activities that alleviate stress. Social support (SS) measures the extent to which the individual feels support from those around him/her. Rational/cognitive coping (RC) measures the extent to which the individual uses cognitive skills when dealing with work-related stress. Unlike the previous two questionnaires, high scores on the PRQ reflect more highly developed coping resources.

Family Environment Scale The Family Environment Scale (FES: Moos and Moos, 1994) is a 90-item survey organized into 10 subscales that measure the social environment of families. Together, the 10 subscales assess (1) three relationship dimensions (i.e. cohesion, expressiveness, and conflict), (2) five personal growth dimensions (i.e. independence, achievement orientation, intellectual-cultural orientation, active-recreational orientation, and moral-religious emphasis), and (3) two system maintenance dimensions (i.e. organization and control).

The FES was modified somewhat for the purposes of this study, in order to allow the BIs to answer the questions based on their own experiences with a particular family with whom they worked. First, a definition of 'family' was provided to clarify who was considered a family member for the purpose of the study. Second, a short paragraph was added to emphasize that the purpose of the questionnaire was to collect information about the *BI's impressions* of the family environment, not to provide an 'accurate' picture of the family. Third, statements in the FES referring to 'we' or 'our

family' were modified to read 'family members' or 'the family'. This modification resulted in 62 out of 90 statements being reworded. Finally, participants were given the option of answering each statement as 'true', 'false', or 'don't know'. Any statements answered as 'don't know' were treated as unanswered items in the analysis.

Autism Behavior Checklist The Autism Behavior Checklist (ABC: Krug et al., 1993) contains 57 behavioral characteristics of autism that are divided into five subscales that each produce a separate score: (1) sensory, (2) relating, (3) body and object use, (4) language, and (5) social and self help. Participants simply circle descriptors of the behavior(s) that they have observed in the child.

Open-ended questions The BIs were also asked to provide written responses to three open-ended questions: (1) What are the most stressful or challenging aspect(s) of your job? (2) What are the most rewarding or enjoyable aspect(s) of your job? (3) Please describe any additional education and/or support that you believe would help you to be more successful in your work. These questions were included to support interpretation of the results of the objective measures. A thematic analysis of BIs' responses to the open-ended questions will appear in a separate article (Elfert and Mirenda, 2006).

Data collection

Participants were given an instruction sheet that provided a brief description of the study procedures and specific instructions regarding each of the instruments. In addition, because one of the main purposes of the study was to examine BI stress, participants were asked to select the most challenging/difficult family with whom they currently worked and the child with autism who was a member of that family. Participants were told (verbally and in writing) that they were not to write down or otherwise reveal the name of the family and child that they had chosen. Participants were asked to complete the FES and the ABC based on their experiences with this family and child only. Completion of all of the forms required approximately 45 to 60 minutes at one sitting.

Data analysis and reliability

Data from the research instruments were entered into an SPSS (version 10.1) file by the researcher. The data for 15 percent of the participants selected at random were also re-entered and checked against the original database by the original rater. The intra-rater reliability of data coding and entry was 99.9 percent.

Results

Inter-site variability

The BIs who participated in this study were recruited from six different sites located in two Canadian provinces, and varied considerably with respect to a number of key demographic variables (e.g. age, formal education). Thus, one-way analyses of variance (ANOVAs) were first computed to determine whether significant between-site differences existed with regard to the following demographic variables: age, years of formal education, months of experience with children with autism, length of time employed in the current agency, hours of work per week, number of families with whom the BIs worked, number of children with whom the BIs worked, initial inservice training hours, ongoing inservice hours, and total inservice hours. Significant site differences ($p < 0.05$) were found for years of formal education, hours of work per week, initial inservice training hours, ongoing inservice hours, and total inservice hours. Pearson product-moment correlations were then calculated to determine whether any of these five demographic variables were associated with the three key outcome variables – namely, occupational stress (ORQ scores), strain (PSQ scores), and coping (PRQ scores).

A moderate positive correlation was found between years of formal education and stress (ORQ) scores only ($r = 29$, $p = 0.02$). Since it appeared that formal education was the only variable that *both* distinguished the six sites *and* was moderately correlated with any of the dependent measures, a decision was made to analyze the data from the 65 participants as though they came from a single group.

Work roles and stress

Based on previous research with HVs, we hypothesized that BIs would identify three work roles on the OSI–R as most stressful: role overload (RO); role ambiguity (RA); and role boundary (RB). A one-way repeated measures ANOVA with six levels was used to determine whether significant differences existed between these three work roles and the remaining three on the OSI–R. The result was significant, $F(5, 315) = 9.65$, $p < 0.0001$, indicating differences between at least one pair of means. Tukey tests were then used to compare the scores on each of the work role subscales with the others (Huck, 2000). Table 1 shows the p-values for the pairwise Tukey tests.

The mean scores for both role overload (RO) and role boundary (RB) were almost identical (53.3 and 53.1, respectively), and both scores were significantly higher than the means for role ambiguity (RA) (50.7), role insufficiency (RI) (50.2), physical environment (PE) (48.1), and

Table 1 ***P*-values for Tukey pairwise comparisons between work role scores on the OSI–R (Osipow, 1998)**

Work role	*RO*	*RB*	*RI*	*RA*	*R*	*PE*
RO		$p = 0.98$	$p = 0.04$*	$p = 0.04$*	$p < 0.0001$*	$p < 0.0001$*
RB			$p = 0.02$*	$p = 0.02$*	$p < 0.0001$*	$p < 0.0001$*
RI				$p = 0.71$	$p = 0.01$*	$p = 0.04$*
RA					$p = 0.003$*	$p = 0.06$
R						$p = 0.15$

* Significant at $p < 0.05$.

responsibility (R) (46.4). Thus, as predicted, RO (i.e. the extent to which job demands exceed personal and workplace resources, and the extent to which the individual is able to manage his/her workload) and RB (i.e. the extent to which the individual experiences conflicting role demands and loyalties in the work setting) were both rated by BIs as being significantly more stressful than the other work roles. The third work role that was expected to be high, RA (i.e. the extent to which priorities, expectations, and evaluation criteria are clear to the individual), had the third highest mean but was significantly lower than both RO and RB (as well as significantly higher than R). Thus, the hypothesis was partially confirmed. Both RB and RO scores were significantly higher than those for RI, R, and PE; however, RA, which was predicted to be in the RB/RO group, was significantly lower than the two highest scores.

Stress and family characteristics

Pearson product-moment correlations were calculated to determine whether there were associations between the total stress (ORQ) scores and the 10 FES subscale scores. No significant relationships ($p < 0.05$) were found between occupational stress and any of the 10 characteristics of challenging families.

Stress and child characteristics

Pearson product-moment correlations were also calculated to determine whether there were associations between the total stress (ORQ) scores and the five subscale scores on the ABC. Significant correlations were found between total ORQ scores and both the sensory ($r = 0.25$, $p = 0.04$) and relating subscale scores ($r = 0.37$, $p = 0.002$). However, the coefficient of determination r^2, which reflects the strength of the association between two variables (Huck, 2000), was only 0.07 for the sensory subscale and 0.14 for the relating subscale, indicating that only a small amount of the

variability in ORQ scores was associated with the variability in these two scores.

Relationships among stress, strain, and coping

Based on the stress, strain, and coping model (Osipow and Spokane, 1984), coping resources were expected to act as a moderator variable between occupational stress and psychological strain. Based on previous HV research, we predicted that individuals with more highly developed coping resources would experience less psychological strain.

A linear hierarchical regression model was used to analyze the relationships among stress, coping, and strain (Baron and Kenny, 1986). The analysis tested how the dependent variable (strain) was influenced by the product of the independent variable (stress) and the moderator variable (coping resources). First, Pearson product-moment correlations were calculated to determine the relationships among the three dependent variables (ORQ, PSQ, and PRQ scores). The results are presented in Table 2.

As seen in Table 2, the three dependent measures were highly correlated. Stress and strain were positively correlated such that as stress increased, so did strain. Both stress and strain were negatively correlated with coping such that as coping increased, both stress and strain decreased and vice versa.

A hierarchical linear regression with strain as the dependent (criterion) variable, stress as the independent (predictor) variable, and coping as the moderator variable was conducted next. The results found that stress (ORQ) scores were significantly positively related to strain (PSQ) scores (beta = 0.51, $p < 0.0001$). In other words, higher levels of stress were associated with higher levels of strain. A significant negative correlation was also found between coping (PRQ) scores and strain (PSQ) scores (beta = −0.39, $p < 0.0001$). Thus, higher levels of coping were associated with lower levels of strain, and higher levels of strain were associated with lower levels of coping. Together, stress and coping accounted for 56 percent of the variance in strain ($R^2_{adj} = 0.56$). However, there were no significant

Table 2 **Correlations among stress (ORQ), strain (PSQ), and coping (PRQ) scores**

Scores	*Stress (ORQ)*	*Strain (PSQ)*	*Coping (PRQ)*
Stress (ORQ)		0.66 (< 0.0001)	–0.39 (0.002)
Strain (PSQ)			–0.60 (< 0.0001)
Coping (PRQ)			

Note: *p*-values are in parentheses.

effects for the interaction of stress × coping on strain (beta = 0.07, p = 0.41). That is, coping was not found to have a significant moderating effect on the relationship between stress and strain.

Discussion

This study was conducted to explore the experiences of BIs who work individually with children with ASD in families' homes, using a variety of objective measures. A number of variables were examined, including the relationships among stress, strain, and coping, as well as how these were related to specific characteristics of children with ASD and their families.

Work roles and stress

The two OSI–R work roles of role overload (RO) and role boundary (RB) were rated as significantly more stressful than the other four (role ambiguity, role insufficiency, responsibility, and physical environment). According to Osipow, people who score high on RO 'may describe themselves as not feeling well trained or competent for the job at hand, needing more help, and/or working under tight deadlines' (1998, p. 12). That this was the case for many BIs was supported by many of their responses to the open-ended question about the most challenging aspects of their jobs. For example, one of the ORQ statements, 'I have to take work home with me', was echoed by a number of participants. Furthermore, almost all BIs described a need for more 'hands-on' support from senior staff and more inservice training in areas such as behavior management and how to manage family issues. The finding that lack of time, high workload demands, and lack of training were sources of stress for the BIs is consistent with previous research on home visiting (e.g. Stewart and Arklie, 1994; West and Savage, 1988a; 1988b).

The role boundary (RB) work role was also rated by the participants as especially stressful. According to Osipow, people who score high on RB 'may report being unclear about authority lines and having more than one person telling them what to do' (1998, p. 12). Again, the findings of the ORQ were supported by participants' responses to the open-ended question about stressors. Many BIs described the stress of trying to meet the expectations of various team members and struggling to incorporate the goals of all stakeholders. Their high scores on the RB subscale also suggest that the lines of communication between the BIs and their supervisors were unclear. Previous research has shown that poor communication and/or conflict with other professionals or work colleagues is a common source of stress for HVs (e.g. Stewart and Arklie, 1994).

Family characteristics and stress

The FES was used to measure BIs' impressions of the 'most challenging' families with whom they worked, in order to determine which characteristics (if any) of those families were associated with higher levels of BI stress. No significant correlations were found between ORQ scores and any of the 10 subscale scores on the FES, suggesting that either (1) no specific family characteristics were uniformly related to BI stress, or (2) the FES did not adequately reflect the characteristics of challenging families that were associated with BI stress. The latter seems more likely since the FES was designed to measure variables pertaining to relationships between family members, not between BIs and family members. Furthermore, when examining participants' open-ended responses regarding stressful family variables, a different set of variables than those reflected on the FES emerged. Many participants wrote about the stress of being exposed to private, personal information about the family. A second common family issue pertained to conflict between BIs and family members or to perceived inconsistencies and lack of support. Neither of these issues was reflected in the data obtained by the FES.

ORQ and Autism Behavior Checklist correlations

Significant positive correlations were found between the total stress (ORQ) scores and the ABC subscale scores that measured child relating and sensory behaviors. The relating subscale includes statements such as 'has no social smile', 'is not responsive to other people's facial expressions', and 'actively avoids eye contact', all of which pertain to the child's difficulty in establishing social relationships. In response to one of the open-ended questions, 91 percent of the participants identified their relationships with children with ASD as the 'most rewarding aspect' of their job. Thus, it follows that high levels of BI stress would be associated with high levels of child unrelatedness.

A significant correlation was also found between total ORQ scores and the sensory subscale scores on the ABC. This relationship was not explicitly reflected in BIs' responses to the open-ended question about the most stressful aspect of their jobs, since few BIs noted child sensory behaviors as a source of stress. However, the sensory subscale of the ABC contains statements such as 'seems not to hear' and 'stares into space for long periods of time'. It may be that such sensory-related behaviors affect children's ability to learn or engage with BIs during intervention, resulting in stress for the BI who is responsible for instruction. It should be noted that only 7 percent of the variance in the relationship between ORS scores and ABC sensory scores could be explained; thus, there are clearly other variables involved in the complex relationship between BI stress and a child's sensory behaviors that were not accounted for in this study.

Relationships among stress, strain, and coping

In the SSC model (Osipow and Spokane, 1984), psychological strain is conceptualized as the negative outcome of occupational stress; however, an individual's coping resources act as a moderating variable between stress and strain and must be accounted for in order to predict the degree of strain experienced. Consistent with the SSC model, stress (ORQ) scores in this study were found to be significantly and positively related to strain (PSQ) scores, indicating that higher levels of stress were associated with higher levels of strain. A significant negative relationship was also found between coping (PRQ) scores and strain (PSQ) scores, indicating that higher levels of coping were associated with lower levels of strain.

However, contrary to the SSC model, coping was not found to have a significant moderating effect on the relationship between stress and strain. In their classic article on moderator and mediator variables, Baron and Kenny noted that 'it is desirable that the moderator variable be *uncorrelated with* [italics added] both the predictor and the criterion (the dependent variable) to provide a clearly interpretable interaction term' (1986, p. 1174). In this study, significant correlations *were* found both between coping and stress and between coping and strain (see Table 2). These correlations may explain why coping did not have a significant moderating effect on the relationship between stress and strain in this study. However, given that 36 percent of the variance in coping was associated with the variance in strain, it appears that coping resources are an important component of how BIs are affected by and manage the stressors they experience.

Limitations

The 65 participants in this study were recruited from six different sites located in two Canadian provinces. Although the organizations for whom they worked all provided similar forms of ABA-based interventions, there was variability with regard to exactly how these interventions were delivered (e.g. number of hours per week). Such variability likely represents the diversity found across early intervention agencies in which BIs work with children with ASD and might therefore enhance the generalizability of the results. However, the results may not represent the experiences of BIs who are employed directly by families rather than through outside agencies.

In addition, the BIs who participated were asked to complete the FES and ABC by thinking of the 'most challenging' families with whom they worked. Given that only one extreme of the family continuum was sampled, the findings are probably not generalizable to all families of children with ASD. However, it seems likely that at least some of the family characteristics described by BIs as being especially stressful are also present in at least some families who are less challenging. For example, the stress

experienced by trying to maintain professional boundaries with families is probably generally applicable. Thus, the difference between 'most challenging' and 'less challenging' families may be a matter of degree rather than a matter of the presence or absence of certain characteristics. However, this issue deserves additional research.

Implications

The directors of the agencies from which BIs were recruited for this study were provided with detailed written summaries of the results, along with an offer by the first author to conduct a workshop for agency staff on the outcomes. Two of the six agencies sponsored such a workshop and reportedly planned to make changes to their BI support structures as a result of the information they received. In addition, the results of the study have several implications for BIs in general and for the agencies in which they are employed. Since role overload and role boundary concerns were the two most significant work stressors identified by BIs, agencies should consider providing specific training on strategies for working collaboratively and communicating with families and professionals, and for maintaining professional boundaries with parents. Many BIs also indicated that they felt inadequately trained and wanted to either improve on previously learned skills and/or learn new skills, especially in areas such as behavior management, communication and language strategies, and data collection.

Future research

Given the lack of published research on the experiences of BIs who work in families' homes, a multitude of possibilities exists for future research and additional variables of interest. Research is needed to examine whether the occupational stressors identified in this study are unique to BIs who deliver ABA-based interventions or are also common to those who deliver other types of home-based supports. Future research is also needed to investigate issues similar to those examined in this study with BIs who work privately for families. Finally, research would be warranted to examine the effects of various types of training and support on variables such as work-related stress and BIs' perceptions of the families and children with whom they work. The effects of specific types of training could be targeted either within or across studies (e.g. watching training videos versus receiving 'hands-on' training).

Conclusion

The results of this study have a number of important implications for the education, training, and support of BIs who provide intensive intervention

to children with autism. This information is absent from the current literature, even though BIs are key members of teams providing support to children with ASD. Researchers, clinicians, and administrators all need a better understanding of BIs' experiences – from BIs' perspectives – so that they can use this information to develop appropriate training programs and support networks that enable these paraprofessionals to achieve success in the context of an extremely complex and challenging job. In the end, this information is likely to benefit not only BIs but also children with ASD and their families, as they receive support from more competent, knowledgeable, and satisfied service providers.

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