

Inclusion

Career Intent Factors of Special Education Teachers Serving Students with ID, DD, and ASD --Manuscript Draft--

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Abstract

There is limited available research on special education teachers of students with intellectual disability (ID), developmental delay (DD), and/or autism spectrum disorder (ASD) and their intent to leave or stay in the teaching profession. Furthermore, we did not find any study examining working conditions and career intent of special education teachers (SETs) of color who work with students with ID, DD, or ASD. Therefore, we investigated the working conditions of SETs who teach students with ID, DD, and ASD and their career intent, with a careful attention to teacher demographic characteristics (e.g., race/ethnicity, gender). SETs of students with ID, DD, or ASD ($n = 564$) completed an online survey that was developed by members of the research team. Our investigation found Black/African American, Asian, Hawaiian/Pacific Islander SETs of students with ID, DD, or ASD reported higher intent to leave, as well as male SETs. Other differences in working conditions were reported between groups. The results emphasize a need to focus on ways to retain SETs from underrepresented groups, as well, implications for practice and research related to working conditions are discussed.

Keywords: *special education teachers, teacher attrition, intellectual disability, autism, teachers of color*

Career Intent Factors of Special Education Teachers Serving Students with ID, DD, and ASD

Teacher retention is critical in special education as the number of students with disabilities continues to increase at a time when special education teacher (SET) attrition is also growing (National Center for Educational Statistics, 2022; Office of Special Education Programs, 2022a; Office of Special Education Programs, 2022b). SET annual attrition rates are twice as high as general education teachers, with a 3-year attrition rate of around 25% (Wong et al., 2017). According to the U.S. Department of Education (2022), 47 states and Washington D.C. reported SET shortages during the 2021-2022 school year. Adding to the problem, 50% of SETs leave the profession within their first five years of teaching (Hester et al., 2020).

A deep look into SET retention and attrition reveals supply is impacted by working conditions (e.g., job demands, administrative support), geographical location (e.g., high-poverty areas, urban, rural), school level (e.g., elementary, middle), teacher demographics (e.g., race/ethnicity, gender), and teacher preparation and qualifications (e.g., certification status, experience level; Barth et al., 2016; Billingsley & Bettini, 2019; Scott, Powell, et al., 2021). Issues influencing SET attrition and retention must take center stage as the lack of qualified *and* diverse SETs can lead to students not experiencing quality services (Billingsley & Bettini, 2019; Scott, Brown, et al., 2021).

The shortage of SETs is impacted by issues with both recruitment and retention. For example, the number of college students completing SET preparation programs is not enough to fill vacancies in schools (Cormier et al., 2021; Robinson et al., 2019), and this is particularly true for college-aged students from racially/ethnically diverse backgrounds. In a recent study, Cormier and colleagues (2021) examined trends in special education degree attainment and

found the percentage of special education degrees awarded to Black college-age students decreased from 1995 to 2019; whereas special education degrees awarded to white college-aged students remained relatively flat. The disparity in special education degree attainment is problematic as researchers indicate opportunity gaps (e.g., academic achievement, exclusionary discipline gaps) improve for Black/African American and Hispanic/Latinx students when matched with a same-race teachers (Dee, 2004; Lindsay & Hart, 2017; Redding, 2019). For students of color, especially Black/African American and Hispanic/Latinx students with disabilities, who are disproportionately labeled in certain dis/ability categories (e.g., intellectual disability; Hines et al., 2018), the decreasing supply of same-race, well-prepared SETs could threaten their means to a quality education (Scott, Powell, et al., 2021). Unfortunately, the number of diverse and well-prepared SETs is not likely to improve anytime soon as COVID-19 is predicted to further impact recruitment numbers (Powell et al., 2022).

Student Disability Status

Few studies have examined SETs career intent (i.e., intent to leave, stay, or transfer schools) crossed with student disability status. Most recently, Bettini et al. (2022) examined SETs serving students with emotional behavior disorders working conditions and career intent. The authors found SETs of color teaching students with emotional behavior disorders experienced differences in working conditions (i.e., school culture, emotional support, autonomy) compared to white teachers; however, relatively little difference existed in these teachers' career intent (Bettini et al., 2022). This indicates there are different experiences for SETs who serve specific group of students, yet also highlights a need for additional research given the variation in working conditions based on SETs' race/ethnicity. Furthermore, to the best of our knowledge, no study has examined the working conditions and career intent of SETs

serving students with intellectual disability (ID), developmental disabilities (DD), and autism spectrum disorder (ASD) based on race and gender.

While little is known about SET retention patterns for teachers of students with ID, DD, and ASD, important factors have been reported regarding burnout and stress levels. Previous studies indicated teachers of students with ID reported lower burnout than teachers serving students with other disability categories (e.g., Banks & Necco, 1990; Beck & Gargiulo, 1983; Park & Shin, 2020). Additionally, teachers of students with ASD self-identified as having the highest stress levels (Jennett et al., 2003; Kokkinos & Davazoglou, 2009). Berry et al. (2011) reported administrators in rural schools had the most difficulty filling vacancies for teachers of students with ASD, emotional behavioral disabilities, severe/multiple disabilities, and sensory disabilities. The varying predictors of burnout and difficulty filling vacancies could correlate with SET career intent; however, it is essential to understand if working conditions and career intent factors for SETs are the same or different for SETs serving students with ID, DD, and ASD.

The number of students ages 3-21 receiving special education services under the category of autism has increased from 580,426 during the 2014-2015 school year to 829,145 students in the 2020-2021 school year (Office of Special Education Programs 2022a; Office of Special Education Programs, 2022b). While this dramatic growth has not been seen for students with ID and DD, there were still 414,546 students with ID and 480,458 students with DD reported in the 2020-2021 school year. All three of these populations of students require specialized instruction from direct support professions (e.g., SETs) to support their unique learning needs, which makes examining SETs serving students with ID, DD, and ASD working conditions and career intent

critically important. That is, understanding why these teachers stay or leave will allow the application of more targeted retention strategies.

Employment Factors that Influence Retention and Attrition

Billingsley (1993) created a conceptual model of factors influencing teachers' decisions to stay in or leave their schools. Major factors included external (e.g., economic issues), employment (e.g., working conditions), and personal (e.g., demographics) reasons for leaving or staying. Most of these factors hold steady by today's standards (see Billingsley & Bettini, 2019); however, a review of current literature indicates that these factors may affect SET attrition and retention differently based on varying circumstances (Scott, Powell, et al., 2021).

Educator Preparation/Certification

Billingsley (2004) claimed SETs are not being adequately prepared, stating, "inadequate preparation leads to ineffective practice" (p. 371). Unfortunately, studies on preparation and retention are scant in the SET literature base and do not focus on many of the different elements of teacher preparation, such as field experiences and curriculum (Billingsley & Bettini, 2019). Edgar and Pair (2005) found their graduates in dual enrollment programs had higher attrition from special education than those in solely special education programs. This aligns closely with the literature on teachers of students with ASD and ID, which shows that content learned in teacher preparation affects teachers' retention. In 2020, Gilmour et al. conducted a multilevel modeling study to determine if licensure type (e.g., general education, special education, or dual certification) moderated the relationship between the percentage of students with different disabilities and teacher attrition. They found no significant relationship between the percentage of students with ID and teacher attrition, but, teachers with dual certification were more likely to leave or change positions when they had a higher percentage of students with ASD in their class.

In addition to licensure, teachers require initial training on disability characteristics and evidence-based practices (EBPs) specific to these students to promote successful outcomes. However, teachers report not feeling prepared to work with students with ASD nor are they confident in implementing EBPs (Hendricks, 2011; Layden et al., 2022). Morrier et al. (2011) reported less than 15% of teachers received training on instructional strategies for use with children with ASD. Furthermore, Knight et al. (2019) found teachers felt unprepared across multiple instructional areas, including communication, self-determination, and vocational development; areas that are critical to students with ID, DD, and ASD, given the poor transition outcomes experienced by these students (Grigal et al., 2011; Whittenburg et al., 2019). Teachers of students with ID and DD have also reported skepticism about whether EBPs apply to their individual students and share they have made many classroom decisions based on what they come up with on their own (Greenway et al., 2013).

Mentoring and Professional Development

Mentoring and professional development are related to educator preparation but typically occur after the teacher has entered the workforce. Currently, there is little, if any, published research specific to the mentoring of teachers of students with ID, DD, and ASD and career intent, and the research on mentoring and professional development for SETs, in general, is mixed. Connelly and Graham (2009) found mentoring did not predict the retention of new SETs. However, qualitative studies suggest that mentorship is essential to new SETs (Gehrke & McCoy, 2007; López-Estrada & Koyama, 2010). Mentoring needs to be studied in more detail, focusing on specific teacher and student populations (Ingersoll & Strong, 2011).

Professional development offers opportunities for growth for in-service teachers. For example, teachers who work with students with emotional and behavioral disabilities reported

engaging in professional development were more likely to stay (Albrecht et al., 2009). Qualitative research supports this connection, with SETs expressing the importance of professional development (Gehrke & McCoy, 2007; Hagaman & Casey, 2018). Knight et al. (2019) also found teachers of students with ASD and ID valued professional development opportunities. However, the literature suggests teachers of students with ASD have not been trained well enough to meet the needs of students. In Hendrick's (2011) study of SETs in Virginia, teachers reported low to moderate knowledge of skills for working with students with ASD and low to moderate implementation of those skills in the classroom. Layden and colleagues (2022) found similar results in their study of administrator and SETs' training, confidence, and implementation of the 27 EBPs outlined by the National Professional Development Center on Autism Spectrum Disorder. They found that the average time spent in training for each EBP was only 1-3 hours, and the average rate of implementation of the practices was only once per month. Additionally, 65% of the responses across the EBPs indicated teachers did not feel comfortable implementing the practice independently or at all. It is feasible that better professional development for these teachers could lower the attrition rates of SETs by decreasing job frustration and stress (Hester et al., 2020).

Administrator Support

Administrator support is a major factor in the retention of SETs, especially for new teachers (Conley & You, 2017; Robinson et al., 2019), and has implications for both professional qualifications and working conditions and rewards, as administrators often lead the way for professional development and overall school culture (Hester et al., 2020). Unfortunately, administrators are not always knowledgeable enough to effectively lead SETs (Robinson et al., 2019). In their study of the relationship between the implementation fidelity of EBPs and school

leadership, Melgarejo et al. (2020) found that only 13% of the administrators surveyed had any training working with students with ASD. The results suggested that administrators may only encourage practices that are familiar to them or that they were too far removed from the classrooms to affect implementation fidelity. This lack of knowledge not only affects teachers' implementation of practices but also their self-efficacy. In 2011, Ruble and colleagues found strong principal leadership was not correlated with self-efficacy for teachers of students with ASD, which they proposed may be due to the teachers not trusting their administrators' expertise in autism. Greenway (2013) also reported teachers of students with ID and DD felt lower accountability to administrators, stating that their administrators were an infrequent classroom visitor. One participant stated the administrator was "afraid to step into [the teacher's] classroom" (p. 462).

Other Working Conditions and Rewards

Other working conditions that may impact retention and attrition of SETs working with students with ID, DD, or ASD include collegial support, paraprofessional support, students, caseload composition, time, resources, and work rewards (Billingsley, 1993; Billingsley & Bettini, 2019). Although these have been found important to SETs, it is unclear how these factors impact teachers of students with ID, DD, or ASD. These elements are also related to the more general teacher burnout model developed by Maslach and Leiter (1999) which identified work demands, social supports, and school culture as factors that contribute to teacher burnout and attrition. Specifically, SETs self-identified paraprofessionals, who are non-licensed assistants working under the direction of a SET, as valuable contributors to their intent to stay in the field (Albrecht et al., 2019; López-Estrada & Koyama, 2010). In these studies, SETs also reported the

importance of having support from their colleagues. The ability to collaborate can impact teachers' feelings of connectedness and being supported (Robinson et al., 2019).

Student factors vary in their effects on retention. In some cases, behavior challenges and student disengagement can negatively impact SET retention (Billingsley, 2007; Conley & You, 2016). Yet, teachers report that serving students with disabilities is something that keeps them in the profession (López-Estrada & Koyama, 2010). Other factors such as caseload size, the amount of paperwork, access to the curriculum, and technology access reportedly impact teachers' likelihood to stay or leave (Albrecht et al., 2009; Billingsley, 2007).

Teacher work rewards include items such as salary, loan forgiveness, or even a sense of success in their role. Billingsley (1993) reported SETs may find their roles challenging due to the slower rate at which students receiving special education services make progress. Other rewards have had mixed results. For example, Clotfelter et al. (2008), found that a bonus of \$1,800 did not significantly impact retention for SETs. However, loan forgiveness did significantly reduce attrition of SETs in Florida (Feng & Sass, 2017). Yet, there is no clear evidence of how these types of factors may impact teachers of students with ID, DD, or ASD.

Purpose of the Study

We know very little about the working conditions and outcomes of SETs who work with students with ID, DD, and ASD. While we know more about differences in SETs' working conditions based on their race/ethnicity, we could not find a single study examining SETs of color who teach students with ID, DD, and/or ASD, their working conditions, and intent to stay or leave from the profession. This finding signifies a major gap in the field of special education as we try and close gaps in SET attrition. Thus, the purpose of this article is to examine reasons

teachers of students with ID, DD, and/or ASD may be more likely to stay or leave the profession.

Specifically, we focused on the following questions:

1. What factors influence teachers serving students with ID, DD, and ASD intent to remain in or leave their teaching role?
2. How does the type of preparation program teachers of students with ID, DD, and ASD attend impact their likelihood to remain in or leave their role?
3. How do demographic characteristics of teachers serving students with ID, DD, and ASD impact their likelihood to remain in or leave their role?

Methods

A survey was developed to identify the potential factors influencing teachers of students with ID, DD, and ASD on their plans regarding remaining in or leaving their current positions.

The questions under study are part of a larger survey dataset (Scott et al., under review).

Survey Construction

We constructed an online survey based on existing literature focused on the attrition and retention of SETs (e.g., Billingsley & Bettini, 2019; Scott, Powell, et al., 2021). For example, we developed several questions pertaining to SETs working conditions, including perceived support from building-level administrators and colleagues (e.g., Billingsley et al., 2017); quality of professional development (e.g., Jones et al., 2013), size and burdens associated with caseloads (e.g., Hagman & Casey, 2017); time to manage work responsibilities (e.g., Bettini et al., 2017), and paraprofessional support (e.g., Walker & Snell, 2017), to name a few constructs. We also asked about other predictors of SETs career intent, including the quality and experiences in their teacher preparation programs (e.g., Burstein et al., 2009). Generally, the research team developed the survey making constant comparisons to the literature. After the internal review, the survey

was reviewed by external reviewers. These included university faculty with content expertise on special education attrition and retention, working conditions, and preparation experienced by SETs. The reviewers provided feedback on content, clarity, redundancy, and length of the survey. Based on reviewer feedback, several items were removed, revised, or added, including the addition of questions from an existing scale by Jones et al. (2013) related to professional development. The survey was then field tested with SETs from a local school district.

After review and testing, the final survey contained 136 questions in ten sections: 1) educator preparation; 2) prior work experience; 3) mentoring; 4) administrator support; 5) professional development; 6) colleague support; 7) paraprofessional support; 8) student characteristics including the subsections of caseloads, and resources; 9) work benefits/rewards; and 10) demographic questions. For most questions, a 5-point Likert-type scale was used to determine the extent to which participants agreed or disagreed with items: 1 = *strongly disagree*, 2 = *disagree*, 3 = *neutral*, 4 = *agree*, 5 = *strongly disagree*. To further examine the survey, a confirmatory factor analysis was conducted for each scale with most demonstrating strong internal consistency ($\alpha > 0.70$, $p < 0.001$; Scott, Bell, et al., in press). The prior work experience scale, though acceptable, rated lower than the other scales ($\alpha > 0.65$, $p < 0.001$). Reliability, validity, and fit were also checked and found acceptable for the scales included (Scott, Bell, et al., in press). Table S-1 displays the items for each scale, Omega Coefficients, and other psychometric statistics for each scale.

Recruitment

The survey was disseminated by e-mailing a request to special education leaders in the authors' geographic area to share with SETs. The survey was also shared through social media, specifically through Facebook groups that included SETs. Facebook groups have shown

potential to increase participation, particularly of those who are likely to meet the criteria and can be difficult to reach through more traditional methods (Iannelli et al., 2020; Revilla & Ochoa, 2018). Participants were provided an incentive of a chance of a \$25 gift card, which were provided to 20 randomly selected people from the total participant pool of survey completers who chose to share their contact information separated from the responses to the survey. Responses to the survey were anonymous and participants could skip questions or discontinue at any time. The survey was available for responses between April and May of 2021 for a total of five weeks. The study was also approved by the university's internal review board (IRB).

Participants

Participants were required to be licensed SETs who taught students in pre-kindergarten through 12th grade within the United States. The survey received 912 responses with 778 fully completed. From those data, in order to be included in the current study, participants identified they worked with students with either ASD, ID, and/or DD. This resulted in 564 participants. Respondents represented regions across the United States, including 46 states, Washington DC, and US territories, representing all 4 census regions of the United States, and each division within those regions. Of the 564 participants, 336 identified as female (59.6%), and 220 identified as male (39.0%). Forty-four teachers indicated that they taught in rural (7.8%), 241 in suburban (42.7%), and 271 in urban communities (48.0%). Ninety-two teachers identified as black or African American (16.3%), 200 as white (35.5%), 68 as Hispanic (12.1%), 60 as Asian (10.6%), 80 as American Indian (14.2%), and 44 as Hawaiian or Pacific Islander (7.8%). When asked about their age, 131 identified as *21 to 29 years old* (23.2%), 265 as *30 to 39* (47.0%), 119 as *40 to 49* (21.1%), 33 as *50 to 59* (5.9%), and 7 as *60 years or greater* (1.2%).

Preparation and Licensure

When these 564 SETs described their teacher preparation program, 288 respondents (51.1%) described their program as *traditional*, and 256 (45.4%) described theirs as *alternative*. Additionally, 221 respondents (39.2%) described their teacher preparation program as *in person*, 175 (31.0%) as *online* and 168 (29.8%) of teachers described theirs as *hybrid*. Years of experience across the 554 who reported their *total years of teaching* ranged from 0 to 35 years with a mean of 7.6 years (*sd 6.1*). Although 527 (93.4%) teachers indicated that they were licensed to teach special education, 390 (69.1%) stated that they were teaching on an emergency or other alternative or temporary license.

Special Education Teachers: Career Intent v. Early-Leavers

One of the primary concerns about the teacher workforce in special education is whether we can train enough SETs to meet the needs of students, and as a part of the equation, whether those who are trained will stay in the profession. To try to understand the SETs who were surveyed, they were asked what their plans were for their future in teaching. Given the nature of the data that were collected, it was not possible to tell how long the SETs surveyed intended to stay in education. However, given the data we had, we used age and length of time SETs planned to teach to create a variable that captured *Career Intent* and *Early-Leaving* SETs.

This was done in the following manner. Reported age ranges (*21 to 29 years old, 30 to 39 years old, 40 to 49 years old, 50 to 59 years old, 60 years old or greater*) were plotted against the length of time the teachers planned to teach (*1 to 2 years, 3 to 5 years, 6 to 10 years, 11 or more years, retiring this year, or do not plan to return next year*). Teachers who did not answer either of those questions ($n = 11$), who reported that they were *50 to 59* or greater ($n = 40$), or if younger than *50 to 59*, reported they were retiring this year ($n = 33$) were excluded as it would not have been possible to tell, regardless of how long they reported wanting to stay in the

profession, whether intent to leave the profession was indicative of a full career or of early departure. Of the remaining 480 SETs, those who reported wanting to remain *11 or more years* for age ranges *21 to 29*, *30 to 39*, and *40 to 49 years* were categorized as *Career Intent* teachers. In addition, teachers who were *49 to 49 years old* and who planned to remain *6 to 10 years* in the profession were categorized as *Career Intent* teachers. The rationale was that the oldest possible age in that category, or the 49-year-olds in this group remaining 10 years would be teaching until they were around 60 years old, which is often considered a reasonable time to retire. Any of the teachers who were *21 to 29* or *30 to 39*, who planned to remain in the profession *6 to 10 years* or less were categorized as *Early-Leaving* teachers. Of the 480 SETs, 154 were categorized as *Career Intent* teachers, who expected to be teaching until their retirement, and 326 as *Early-Leaving* teachers who expected to be leaving the profession before retirement age. It is worth noting that in this national sample of SETs, only 32% reported a desire to remain in education until approximately normal retirement age.

Analyses

Survey Data on Support: ANOVA

Within the survey, SETs were asked to specify each group of students they taught. SETs who specified that they taught at least one of ID, DD (not associated with risk of ASD), or ASD students were included ($n = 564$). As a result, it was possible for them to teach all or only some of those categories. To evaluate the extent to which SETs of students with ID, DD, and ASD rated the scales measuring different aspects of support differently, those SETs who reported teaching only one of the three groups were chosen for this analysis, as it would be impossible to attribute the answers of those who taught more than one group to a single group. Of the original 564 special education teachers, 43 reported teaching ID, DD, and ASD; 36 reported ASD and

DD only; 62 reported ID and ASD only; and 30 reported ID and DD only. Of the remaining 393 SETs, 185 reported teaching ASD only, 127 reported teaching DD only, and 81 reported teaching ID only. Only these 393 SETs' data were used to evaluate the extent to which SETs differed on answers to the survey as discussed below.

Career Intent and Early-Leaving SETs: Logistic Regression

For the *Career Intent* and *Early-Leaving* SETs ($n = 480$), a forward binary stepwise logistic regression was used to determine the variables that might predict which teachers would be identified in those categories. The predictor variables were entered as blocks due to the rational coherence of those variables in sets. For example, demographics temporally precede the other variables considered and are not readily malleable; they were entered as the first block. The second block included variables related to teacher preparation programs and licensure; they can be changed, but generally are set by the time teachers begin their careers. The third block included the instrument with the factor scores developed from the Scott, Bell, et al. (in press) survey. The list of these variables is included in Table 1.

All variables described below were taken from Scott, Bell, et al. (in press) and were dummy coded. The most common survey response was considered the reference value. For *Race/ethnicity*, *white* was the reference value. For *gender*, *female* was the reference value; for *community*, *urban* was the reference value. For *type of preparation program*, *traditional* was the reference value; for *mode of preparation*, *in person* was the reference value. For *type of licensure/certification*, *dual certified* was the reference group. For example, the largest number of survey respondents indicated that they completed an in-person teacher preparation program. The other two choices for the survey question were *online* and *hybrid*; both were turned into dummy variables for the logistic regression. *Race/ethnicity*, *gender*, *community*, *type of*

preparation program, mode of preparation, and type of licensure/certification were all coded as dichotomous dummy variables.

<INSERT TABLE 1 ABOUT HERE>

Results

ANOVA Results: Support

Analyses of Variance (ANOVAs) were run to determine whether there were differences between SETs who taught only ID, DD or ASD ($n = 393$) on the survey results for support: *Mentor Support, Administrator Support, Professional Development, Collegial Support, Paraprofessional Support, Working with Students, Caseload, Time, and Resources*. Means and standard deviations for these scales by SET group may be found in Table 2. Given that there were 9 comparisons that would be run on different aspects of support, a Bonferroni correction was applied to the α for each comparison, which was set at 0.0055. At this level, four support variables were statistically significant: *Administrator Support*, $F(2, 390) = 5.48, p = 0.005$; *Collegial Support*, $F(2, 390) = 5.30, p = 0.005$; *Working with Students*, $F(2, 388) = 9.68, p < 0.001$; and *Caseload*, $F(2, 385) = 5.39, p = 0.005$.

<INSERT TABLE 2 ABOUT HERE>

These significant comparisons were then probed to determine how the groups differed. ASD SETs had higher scores than ID SETs for *Administrator Support* ($p = 0.003$), *Collegial Support* ($p = 0.004$), and *Working with Students* ($p < 0.001$). For each of those comparisons, DD mean scores were between those of ASD and ID SETs, but were not significantly different from either. For *Caseload*, scores of DD SETs were significantly higher than those of ID SETs.

Stepwise Logistic Regression Results: *Career Intent and Early-Leaving SETs*

The stepwise logistic regression results appear in Table 3 ($n = 480$). For the first block of demographic variables, *Black or African American*, *Asian*, *Hawaiian or Pacific Islander*, and *Male* were retained in the equation. Teachers who were in any of these categories were less likely to be *Career Intent* teachers. *Hispanic*, *Indian*, *Other Race*, and *Other Gender* (either chose not to identify or non-binary) did not enter in the first block. The ethnicity variables are a concern as they indicate that in this survey, teachers of ASD, ID, or DD who reported being *Black or African American*, *Asian*, *Hawaiian or Pacific Islander* were planning to leave teaching at a rate that exceeds that of *white* teachers. Similarly, teachers of ASD, ID, or DD who reported being *male* also reported planning to leave teaching at a rate that exceeds that of white teachers. All variables in the equation were significant at $p < .05$.

For the second block of variables, preparation and community variables, *Online Preparation* and *Dual Certification* remained in the equation and were negatively associated with *Career Intent*. Teachers of ASD, ID, or DD who reported that they were prepared online or who were dual certified reported that they planned to leave their teaching careers at a rate that exceeds that of white teachers. *Alternate Preparation* and *Hybrid Preparation* did not enter in the second block. It is worth observing that teachers who were prepared in traditional in-person preparation programs were more likely to report intending to make a career of teaching. All variables in the equation were significant at $p < .05$.

Between the first and second blocks, there was little change in the B weights as the second block of variables was added to the first. However, when the factor scores were added between the second and third blocks, much of the variance shared moved to the scale scores, and variables that had been significant in blocks one and two were no longer significant. Once those scale scores were in the equation, *Asian*, *Hawaiian or Pacific Islander*, *Male*, *Online*

Preparation, and *Dual Certification* were no longer significant. What remained in the equation and were negatively related to *Career Intent* were *Black or African American*, *Prior Work Experience*, *Intent*, *Para Support*, and *Time*. *Stress and Job Satisfaction* and *Working with Students* were positively related to *Career Intent* and had the largest of the odds ratios. *Educational Preparation*, *Benefits of Profession*, *Families*, *Mentor Support*, *Administrator Support*, *Professional Development*, *Collegial Support*, *Caseload*, and *Resources* did not enter into the equation.

<INSERT TABLE 3 ABOUT HERE>

To further clarify the relationship between the variables in the logistic regression and the *Career Intent* outcome variable, correlations of those variables were run independent of the regression and appear in Table 4. *Prior Work Experience* was composed of 6 items related to work history such as “I always knew I wanted to be a teacher” and “I had experience working directly with children before becoming a teacher.” *Intent* was composed of 3 items such as “I have never considered leaving the special education teaching profession.” *Para Support* is composed of 5 items such as “I have access to a paraprofessional” and “I have adequate time for supervising my paraprofessionals.” *Time* is composed of 11 items such as “My current job demands are reasonable” and “My workload does not cause mental exhaustion.” These 4 scales were negatively related to *Career Intent* in the logistic regression.

Stress and Job Satisfaction was composed of 11 items such as “I feel like my students need me” and “I feel like my work is important.” *Working with Students* is composed of 6 items such as “I am committed to working with students with specific disability categories” and “My school supports teachers to manage student behavior effectively.” Both of these scales were positively related *Career Intent*. For example, the more likely SETs were to report that they feel

supported and enjoyed working with students, the more likely they were to report they wanted to stay in the profession. Please see Table 3 for all correlations.

<INSERT TABLE 4 ABOUT HERE>

Discussion

It is clear that there is a critical shortage of SETs in the United States (Hester et al., 2020; U.S. Department of Education, 2022; Wong et al., 2017). Students with ID, DD, and ASD require specialized instruction to meet their unique learning needs. However, little is known about the teachers working with these populations and their reasons for attrition and retention. The current study investigated factors related to attrition and retention of these professionals through a national survey. Results from the survey indicated while some factors are similar to SETs, more generally, there were some specific areas that were unique to this population of teachers which should be considered.

Similar to the existing literature (Edgar & Pair, 2005), teachers who participated in dual certification programs with more career options were less likely to remain in their position working with students with ID, DD, and/or ASD. Related, those who completed *Online Preparation* for their licensure preparation programs were negatively associated with *Career Intent* meaning they were less likely to remain in the field for a long period of time. This is a concern, especially during COVID-19, as the pandemic increased the prevalence of online programs to prepare teachers.

Different from the special education retention literature, administrator support was not a significant factor for teachers of students with ID, DD, and ASD in their intent to stay or leave. This is congruent with findings from Greenway et al. (2013) and Ruble et al. (2011). As suggested by Greenway et al., (2013) teachers of these populations of students may not feel as

accountable to their administrators. Also, because administrators report being less likely to have received training, at least with regards to students with ASD, (Layden et al., 2022; Melgareio et al., 2020) it is possible these teachers look for support from other sources, such as colleagues. Knight et al. (2019) suggests, at least for choosing instructional practices, teachers of students with ASD and ID do rely on colleagues' recommendations. Also contrary to previous findings (e.g., Albrecht et al., 2019; Billingsley, 1993; Billingsley & Bettini, 2019; López-Estrada & Koyama, 2010), paraprofessional support was a factor found to influence SETs yet was found to be negatively related to *Career Intent*. Though the survey results did not explain why this was the case, it may be classes that serve students with ID, DD, and ASD have more paraprofessional support, and the management of these adults generally falls to the special education teacher.

There are some other important considerations from our data. First, males reported being more likely to leave than their female counterparts. This is important because there are fewer male teachers and, specifically for ASD, there are at least three times more males with ASD than females (Loomes et al., 2017). Additionally, the odds ratios from the logistic regression indicated Black/African American teachers were 35.7% less likely than their white counterparts (the reference group) to maintain a career in teaching. This is troubling considering the need for SETs from underrepresented groups, including Black/African American SETs (Scott, Powell, et al., 2021). Some reports indicated SETs of color may experience more hostile working conditions (e.g., Scott, 2021) which can lead to terminating their positions. It is critical that these concerns are addressed in order to better support SETs of color to remain in the teaching profession, particularly Black SETs.

Other factors that were negatively related to *Career Intent* included *Prior Work Experience* and *Time*. Time was a factor under working conditions suggested by Billingsley

(1993) and Billingsley and Bettini (2019). Those who reported higher job satisfaction were more likely to stay. Also, not surprisingly, teachers who reported enjoying working with their students were more likely to stay as well. These two factors had the largest of the odds ratios. Robinson et al., (2019) found job satisfaction and burnout to be significantly related and those who have higher job satisfaction are less likely to experience burnout and more likely to remain in the profession.

Interestingly, there were some factors that did not have an impact on attrition and retention, specifically, families, mentor support, professional development, collegial support, caseload, and resources. Despite factors such as caseload (Albrecht et al., 2009; Billingsley, 2007), families (Billingsley, 2007; Conley & You, 2016), collegial support (Robinson et al., 2019), and resources (Billingsley, 1993; Billingsley & Bettini, 2019) being reported as important to SETs, they did not impact the SETs from our survey and their decisions to stay or leave.

Professional development was an interesting factor from the survey. Our findings did not indicate this was a significant factor in teachers' decisions to stay or leave. However, we did not ask about different types of professional development experiences or dive into their impact on teaching. For example, participants may have to attend professional development opportunities that they do not feel relate to their students and, as reported in Robinson et al. (2019), teachers who experience meaningful professional development relevant to their students and classrooms tend to have higher job satisfaction. Yet, as Greenway et al. (2013) found, teachers of students with ID and DD report lacking access to relevant professional development opportunities.

Limitations

This study should be considered within the following limitations. There was a lot more variation for the continuous variables (including scale scores ranging from 3 to 15 and 11 to 55)

than the dichotomous variables (i.e. 0/1) which means there was a lot more variation in the continuous variables contributing to the regression. While interesting, we cannot interpret the odds ratios directly as they are not on the same scale as the dichotomous variables. Based on our sampling procedures the generalizability of the study is limited. However, given the overrepresentation of SETOC in our study representative to the total population of special education teachers and their underrepresentation in research we consider our sample a strength. Nevertheless, stratified random sampling of special education teachers for future research should be considered. Additionally, although we defined DD in our survey to SETs as not associated with risk of ASD, their self-discernment of DD and ASD may be problematized, as teachers may often not have enough diagnostic information to make this call. It is also important to consider that these are all survey data that were collected at a difficult time in American education. Data were collected during the COVID-19 pandemic which may have had implications on retention and attrition. Furthermore, although researchers have linked teachers' intent to leave with actual leave (Nguyen et al., 2022), it is impossible to know on an anonymous survey whether respondents' reports of their intentions are related to what they will do once they can decide whether to remain in teaching long term. Finally, if a teacher is leaving because they lack poor instructional quality, which could be related to preparation, this may be in the best interest of schools. Collecting data about why teachers intend to stay or leave is an important consideration for addressing career intent, and the absence of this information is a limitation of the current study.

Implications for Future Research

Future research should continue to look at teachers of students with ID, DD, and ASD, focusing on how to increase job satisfaction and capitalize on the enjoyment teachers have in

working with their students. This research agenda should also include a deeper look at investigating working conditions of SETs of color and male SETs who work with students with ID, IDD, and ASD. Understanding why these underrepresented groups of teachers intend to leave the profession at higher rates than white teachers may have education and adult-outcome implications for same-race and same-gender students with ID, IDD, and ASD. We also advance the call for research investigating teacher demographics and factors for retention and attrition (Cormier et al., 2021; Scott, Powell, et al., 2022).

Additionally, a deeper look at professional development needs and how to provide meaningful professional development opportunities relevant to these teachers' students and classrooms should be considered. Finally, future research should consider why differences may exist in online versus in-person preparation programs, particularly as online preparation courses and programs continue to produce new teachers.

Recommendations for Practitioners

Practitioners can also glean useful information from this study. School administrators need to focus on factors that increase job satisfaction. Although administrator support was not an important factor in retention, administrators can provide specific types of support such as helping to free up preparation time or providing meaningful professional development opportunities. Administrators may also consider obtaining greater levels of training in ID, DD, and ASD in order to provide additional supports that may not be currently available to many of these teachers.

In conclusion, teachers working with students ID, DD, and ASD support a unique group of students who require more individualized educational supports and instruction. While research has examined special education teacher attrition and retention, little focus has been on the SETs

who work specifically with students with ID, DD, and ASD. These teachers require supports that are also unique to them and their specific needs. The current study provided insight into factors that influence why teachers may plan on staying or leaving in the profession. Students with ID, DD, and ASD need quality teachers and by supporting these teachers effectively and identifying their needs, we can increase retention rates leading to more experienced teachers available to students who can have very significant needs.

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Table 1

Variables Tested in Stepwise Logistic Regressions of Associations Between Career Intent and Demographics, Preparation, and Employment Scales

	Variables Not in the Equation	Variables Remaining in the Equation
Race/Ethnicity	Hispanic, Indian/Native American, Race (other)	Black or African American, Asian, Hawaiian or Pacific Islander
Gender	Not Male or Female	Male
Community	Rural, Suburban, Combination Community (Rural, Suburban, Urban)	
Type Preparation Program	Alternate	
Mode Preparation	Hybrid (online and in-person training)	Online Preparation
Type Licensure/Certification		Dual Certification
Employment Scales	Educational Preparation, Benefits of Profession, Families, Mentor Support, Administrator Support, Professional Development, Collegial Support, Caseload, Resources	Stress and Job Satisfaction, Prior Work Experience, Intent, Para Support, Working with Students, Time

Table 2*Descriptive Statistics for Scale Support Variables by Groups of Special Education Teachers**Teaching Only Students with ID, DD, or ASD*

Scale	Range	<i>ASD</i>	<i>ID</i>	<i>DD</i>	<i>Total</i>
		<i>(n = 185)</i>	<i>(n = 81)</i>	<i>(n = 127)</i>	<i>(n = 393)</i>
		Mean (sd)	<i>Mean (sd)</i>	<i>Mean (sd)</i>	<i>Mean (sd)</i>
Mentor Support	6-30	22.7 (4.6)	21.2 (4.5)	22.9 (5.1)	22.4 (4.8)
Administrator Support	10-50	38.6 (7.2)	35.3 (6.8)	37.9 (8.0)	37.7 (7.5)
Professional Development	9-45	33.9 (7.1)	31.6 (6.2)	33.8 (7.4)	33.4 (7.1)
Collegial Support	5-25	19.5 (3.2)	18.0 (3.6)	18.9 (4.3)	19.0 (3.7)
Paraprofessional Support	5-25	18.8 (3.8)	17.5 (3.9)	18.8 (4.5)	18.5 (4.1)
Working with Students	6-30	23.9 (3.8)	21.5 (4.0)	22.4 (5.2)	22.9 (4.4)
Caseload	4-20	15.1 (2.9)	14.0 (2.9)	15.4 (3.2)	15.0 (3.0)
Time	11-55	40.5 (9.3)	39.0 (8.2)	41.6 (9.6)	40.6 (9.2)
Resources	4-20	15.1 (3.5)	14.3 (2.9)	14.9 (3.8)	14.9 (3.5)

Table 3

Stepwise Logistic Regressions of Associations Between Career Intent and Demographics, Preparation, and Employment Scales for the Final Step of Each Block

	Variable	<i>B</i>	<i>SE</i>	<i>p</i>	<i>Odds Ratio</i>
Demographics Block	Black or African	-1.030	.321	.001	.357
	American				
	Asian	-1.216	.430	.005	.296
	Hawaiian or Pacific	-1.251	.500	.012	.286
	Islander				
Demographics & Preparation Block	Male	-.625	.217	.004	.535
	Black or African	-.836	.329	.011	.433
	American				
	Asian	-1.00	.438	.022	.368
	Hawaiian or Pacific	-1.103	.507	.030	.332
Demographics, Preparation, & Employment Scales Block	Islander				
	Male	-.490	.228	.031	.613
	Online Preparation	-.724	.254	.004	.485
	Dual Certification	-.986	.277	<.001	.373
	Black or African	-.930	.374	.013	.395
Demographics, Preparation, & Employment Scales Block	American				
	Asian	-.680	.487	.162	.507
	Hawaiian or Pacific	-.578	.541	.286	.561
	Islander				
	Male	-.043	.272	.875	.958
Demographics, Preparation, & Employment Scales Block	Online Preparation	-.377	.295	.201	.686
	Dual Certification	.273	.369	.460	1.314
	Stress and Job	.148	.034	<.001	1.159
	Satisfaction				
	Prior Work Experience	-.181	.045	<.001	.834

Intent	-.160	.073	.029	.852
Para Support	-.150	.048	.002	.861
Working with Students	.211	.053	<.001	1.235
Time	-.059	.022	.007	.943

Note. All $df = 1$.

Table 4

Spearman Correlations between Variables in the Logistic Regression and Career Intent for 480

Special Education Teachers

Variable	Correlation with <i>Career Intent</i>
Dual Certification	-.212**
Black or African American	-.125**
Asian	-.118**
Hawaiian or Pacific Islander	-.107*
Male	-.116*
Online Teacher Preparation Program	-.155*
Stress and Job Satisfaction	.086
Prior Work Experience	-.197**
Intent	-.258**
Para Support	-.172**
Working with Students	.145**
Time	-.239**

Note. ** Correlation is significant at the .01 level.

* Correlation is significant at the .05 level.