UNIVERSITY OF CALIFORNIA

Los Angeles

Dual Identification:

English Proficiency and Educational Placement of English Learners with Autism Spectrum

Disorder

A thesis submitted in partial satisfaction

of the requirements for the degree

Master of Arts in Education

Fernanda Anahí Castellón

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ABSTRACT OF THE THESIS

Dual Identification:

English Proficiency and Educational Placement of English Learners with Autism Spectrum

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By

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Master of Arts in Education

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Abstract:

There is an ever-increasing rate of immigrant origin children in the United States where at least one parent speaks a language other than English. This has directly resulted in an increase number of English Learners (EL) being served in both general education and special education, including children with Autism Spectrum Disorder (ASD). California statewide reports show that on average, 88% of EL students become reclassified as English proficient by 8th grade but little to none is known about the time to reclassification for students who are both EL and autistic. The aims of the present study were to examine the characteristics, time to English proficiency, and educational placement for dually identified EL students with ASD in a large urban school district across the 2011-2019 academic school years. Overall, dually identified students (N=201) became English proficient at low rates and at older ages. Being reclassified also impacted the educational placement of students as EL students with ASD were less likely to be placed in general education settings. The present study begins to illustrate the time to English proficiency of dually identified students and the impact it has on their educational opportunities.

The thesis of Fernanda Anahi Castellon is approved.


Alison Bailey

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# ACKNOWLEDGMENTS

In the past 30 years, the United States has received a great influx of international immigrants from diverse countries, linguistic origins, and ethnic groups (Glick & Hohmann, 2007). This has directly translated into a large population of students who have at least one foreign born parent and who speak a language other than English at home (Fry, 2007; Aud et al., 2010; Thompson, 2017). One of the first interactions that such students have with the school system is the delivery of the Home Language Survey (HLS) which is used to identify if a language other than English is spoken at home (Bailey & Carrol, 2015). If a language other than English is effectively identified, the English Language Proficiency (ELP) exam is administered, which leads to the possibility of students being evaluated and identified as English Learners (EL) (Boyle et al., 2010). The categorical identification of students as EL came about as a result of the *Lau vs Nichols* court case (Lau vs Nichols, 1974). Before the court case, students were systematically segregated due to their linguistic differences and were being discriminated against by teachers, students, and administrators (Ferri & Connor, 2005). The court case resulted in the requirement for schools to ensure that students learned English and created specific educational tracks to promote the attainment of the English language accompanied by yearly assessment of students to evaluate process and eventually reach proficiency (Slama, 2012; Glick Hohmann-Marriot, 2007, Goldernberg, 2008). Although testing is mandated by the federal government under the Elementary and Secondary Education Act (ESEA), each state is left to develop and utilize their own test aligned to its adopted ELP/English language Development standards to both assess and track the English learning process of EL students. In California, the English proficiency test is called the English Language Proficiency Assessments for California (ELPAC) and is given to students as early as kindergarten and is comprised of two separate ELP assessments: The Initial Assessment and the annual Summative Assessment. The initial

assessment is used to identify students as English Learners while the summative assessment is administered annually as a way to measure a student's English language proficiency progress and level (Multilingual and Multicultural Language Department, 2018).

Once a student has been tested and identified as an EL student at the elementary school level, they then have the possibility of being placed into four different types of instructional programs: 1) Dual Language Two-Way Immersion, 2) Dual Language One-way immersion, 3) Language and Literacy English Acceleration Program (LEAP), and 4) Mainstream English Program depending on program offerings and availability in the district. Within these instructional programs, teachers receive guidance and tools to target English Language Development (ELD) standards through either Integrated or Designated instruction (CDE, 2021). Integrated ELD instruction is when the CA ELD standards are used and targeted at the same time as the state-adopted academic standards. In contrast, designated ELD instruction is when CA ELD standards are targeted during protected time in the regular school day (CDE, 2020). Initiatives and policy changes dating back to 2012 have made it so that EL students are meant to be supported in achieving biliteracy in English and their heritage language, but not all schools are equipped to offer all four different types of instructional program (CDE, 2019). Although the goal of all EL instruction is for students to achieve English and academic proficiency, the segregation of students based on linguistic capabilities and implicit bias from teachers can negatively impact students' trajectory. Linguistic segregation and implicit bias impact access to rigorous grade level material as a result of decreased expectations and perceived capabilities of EL students (CDE, 2019). Such experiences can reduce the academic opportunities of EL students that are consequential for the promotion of college-readiness skills and long-term career-related success (Snow & Kim, 2007; Scarcella, 2003; Slama, 2012; Umansky 2018).

For those students who do become English proficient, the timing of the reclassification is highly predictive of their academic opportunities. Students who become English proficient by middle school perform academically similar to native English speakers (Thompson, 2017) and better than students who remain EL. In contrast, those who remain as EL after the elementary grades are at an increased risk of dropping out of high school and failing to pursue higher education (Sheng, Christine, & Anderson, 2011; Kieffer, Lesaux, & Snow, 2008). Those most at risk for remaining EL are those who are native Spanish speakers, students whose parents have low education levels, and those who qualify for Free and Reduced-Price Lunch (FRL). These students become English proficient at older ages or never reach English proficiency while in school (Umansky & Reardon, 2014).

### EL and Disability

Another group of students who are also at risk to be long term EL students (i.e., those who remain as EL students for more than 6 years) are those participating in the Special Education system (Okhremtchouk et al., 2018,2007; Slama et al., 2017; Thompson, 2017). One of the fastest growing populations of students qualifying for Special Education services are those students with autism spectrum disorder (ASD). ASD is defined as a developmental disorder that is present from early age characterized by difficulties in communication, behavior, and restricted interests (APA, 2013). According to the Centers for Disease Control and Prevention (CDC) estimates from their Autism and Developmental Disabilities Monitoring (ADDM) Network, one in every 59 children have ASD (CDC, 2018). ASD affects all ethnic groups equally, however, reports from the CDC also show that there is a higher ASD prevalence amongst White children from higher social economic status in comparison to both Black and Latinx children from lower social economic status. This discrepancy shines light on the disparities in access and utilization

of quality ASD services in Black and Latino households (Magana et al., 2012) that could potentially be exacerbated for parents who do not speak English. It has been noted that children with ASD whose parents do not speak English, are less likely to receive a diagnosis and adequate services, putting EL children further at risk for not receiving appropriate diagnosis and services (Zuckerman, et al 2014). Although there may be barriers to diagnosis for EL students, recent reports show that 1 out of 4 children with ASD are being raised in a home where English is not the primary language (Trelles & Castro, 2019). As both categories of EL and ASD experience barriers, one can posit the incremental risks that are encountered by being both an EL student with ASD.

Previous research has illustrated the paradoxical representation of EL students with disabilities such as Intellectual Disability (ID) and Speech Learning Delay (SLD), claiming that such students are either wrongly over or underrepresented, but little research has investigated the intersection of EL students with ASD (Rueda & Windmueller, 2006; Artilles et al., 2005; Sullivan, 2011; Hibel & Jasper, 2012). Hibel and Jasper (2012) illustrate how immigrant students are significantly more likely to be labeled as an EL student before they are screened for a disability. Hibel & Jasper (2012) focus on the disability category of learning disability and utilize nationally representative longitudinal data for students who began kinder in 1998-99 all the way until they graduated high school. By using discrete time hazard modeling, Hibel & Jasper (2012) claim that immigrant children were first being placed in EL classrooms for their early school grades and were later identified with a disability and placed in special education classrooms at later grades.

At the same time, research from Sullivan (2011) shows how English Learners have been placed in special education at disproportionally higher rates. Sullivan takes a historical analysis

at the issue and identifies how since the 1980's minority students, such as Latino children from immigrant parents, were more likely to be identified as disabled, specifically if they were screened in English. Sullivan's work agrees with Hibel's and Jasper's work as she identifies a similar trend that showed how as EL immigrant students were progressing through the school system, they were also increasingly being identified as disabled and therefore transferred to special education. Sullivan (2011) is attributing this trend to the possibility that students are being wrongfully labeled as disabled as a result of a decrease in language support services. Sullivan (2011) claims this is happening as schools are no longer equipped with the appropriate language support services for EL students, forcing the schools to identify the students as disabled in order to provide them with language supports through special education.

Work from Rueda and Windmueller (2006) recognized a similar shift of placement that showed how specifically in California there were high proportions of EL students in early grades and high proportions in special education by the 5th grade for students with learning disability. Additionally, Rueda and Windmueller (2006) noted how they observed a specific trend between the type of EL students who switched placement to special education. Researchers noticed that there was a specific distinction between EL students who were in English Immersion Classrooms, modified English Immersion, and Bilingual classrooms. Students in the English Immersion Classrooms were only instructed in English, while students in the modified English Immersion and Bilingual classroom were instructed in both English and their native language. Researchers noted that EL students who had participated in English Immersion Classrooms were three times more likely to be placed in special education classrooms when compared to EL students in Bilingual classrooms (Rueda & Windmueller, 2006).

To continue this work, Artilles, Rueda, Salazar & Higadera (2005), further analyzed patterns of overrepresentation or underrepresentation of EL students in special education among several California school districts. Artilles et al., (2005) focused on taking their analysis further by disaggregating the EL minority group by assessing by EL classification (English learner and pupil of limited English proficiency). Using the database of 11 urban school districts from Southern California, Artilles et al., (2005) calculated a composition index, risk index, and an odds ratio for the disability categories of: mental retardation (MR), language and speech impairments (LAS), and learning disability (LD). Artilles et al., (2005) analysis showed that at the district level, EL students were not significantly overrepresented nor underrepresented in special education, but when the analyses were split between elementary and secondary the results showed otherwise. At the primary level, analysis showed that English Learners were underrepresented in special education when compared to White and English proficient EL students, while at the secondary level analysis showed English Learners were overrepresented. Artilles' et al., (2005) findings show how EL students are being placed in special education at later grades and allows us to observe that specifically, the students who are switching from EL to special education are the students who are not mastering the English language.

The literature around the issues of paradoxical representation of EL students in Special Education begins to outline the various points in which EL students in special education begin to fall between the cracks. This body of work begins to explicate the risk factors that are associated with being an EL student but has not included students with ASD. As autistic students are the fastest growing population of students in Special Education, it is imperative to begin to analyze the trends of time and placement associated with being an EL student with ASD.

***Educational Placement***

A potential contributor to the length of time to English proficiency for an EL student with ASD is their education placement. The Individuals with Disabilities Education Act (IDEA) guarantees the education for students with disabilities in the "least restrictive environment", also known as inclusive settings as students are included in general education settings (IDEA, 2017). Inclusive settings have been shown to not only promote academic skills such as language and functional communication, but also social skills such as social interaction and play (Stahmer and Ingersoll, 2004). All of the previously mentioned skills facilitate the educational experience of not only students with ASD but that of typical students as well. Inclusive settings have shown to improve the social interactions of typical and atypical students while also increasing the social acceptance of students with ASD (Ruijs & Peetsma, 2009; Hunt and Goetz, 1997). Although inclusive settings are viewed as advantageous by experts, minority students with ASD have historically been placed in non-inclusive special education settings at higher rates than students from White middle-class backgrounds (Ferri & Connor, 2005). Both EL students and students with ASD are placed in specific learning tracks that individually influence the future of the student. Although reaching English proficiency is imperative for EL students, very little is known about how English language proficiency impacts educational placement for students with ASD. Due to the communication difficulties associated with ASD, it is imperative to begin to document the current educational opportunities and trajectories of students at the intersection of ASD and EL as they are at great risk for long-term EL identification and ultimately low academic achievement. The current research study was guided by the research questions below:

**Research Questions**

1. What are the characteristics of a) students who have ASD and of b) students who have ASD and are also identified as English Learners (ASDxEL) in a large urban school district in Southern California?

2. Do students who have ASD and are also identified as EL have higher odds of being placed in specific type of educational setting? (GE vs SDC)

3. At what age do students classified as ELL have the highest probability of becoming English language proficient?

   1. Does this probability vary depending on educational placement?

## Methods

### Participants

Data were originally collected by the administration of a large urban school district in Southern California for the academic school years from 2011 to 2019 (Sturm, Williams, Kasari, 2021). Participants included students who met disability eligibility criterion and were identified as English Learners, as indicated on their Individual Education Plan (IEP) and were assigned to receive at least one special education service in school. Inclusion criteria were as follows: (1) the student was identified as meeting eligibility for (a) Autism (AUT) and (b) English Learner (EL), (2) at least one special education service in school was assigned during the IEP meeting, (3) participant must have had at least 2 observation years, (4) an IEP meeting took place throughout the 2011-2019 school years, (5) the student was enrolled in TK-5th grade at their first observation in the 2011-2012 academic school year. Participants who had a disability classification of SLD and ID were excluded from the study. In order to take into consideration, the possibility that a student may switch between educational placements across 2011 and 2019, a primary

educational placement category was created. The final sample included N= 201 with a total of 1266 observations (Mean observations per student = 6.29)

**Measures**

The school district collected basic demographic information for the students that included age, grade level, income category, free and reduced lunch, educational setting (general education and special education), disability, and school type (public day school, nonpublic day school, special education center or facility, and charter school).  Due to the large nature of the urban school district, administration also collected data on the district region that the school belonged to (North, East, West, South) and the associated median neighborhood income. Data were obtained after access to the de-identified data tapes was granted through IRB protocol by both the corresponding school district and the University of California, Los Angeles.

**Analyses**

*Demographics*

All analysis were performed using R version 4.0.4(R Core Team, 2021) using survival packages (KMsurv, survival, Therneau, 2009).

In order to quantify the demographic characteristics of the sample by students in the 2011-2012 academic school year, univariate statistics (mean, standard deviation, range) were calculated by diagnosis, English Learner classification, ethnicity, educational placement, median household income, and free and reduced lunch.

*Disproportionality in Educational Placement*

To determine potential disproportionate educational placement among students with ASD and students with ASD who were also classified as EL, regression analysis (logistic regression) was calculated by classification (AUT vs AUTxEL) and educational placement (general

education or special education) using the last year of the sample (2018-2019). The last year of the sample encompassed all students who remained EL students and those who reached English proficiency, making it the most representative year of potential disproportionality.

### *Probability of Remaining as an EL Student*

To observe how long it takes for a student to reach English proficiency indicated by no longer being identified as an EL students, this study utilized Kaplan-Meier survival analysis (David & Mitchel, 2012). Survival analysis investigates the expected length of time that an event of interest occurs. In classical survival analysis, this event of interest is usually time of death. In the context of our analysis, the event of interest is becoming English proficient (i.e., losing the EL identification). Survival analysis is specifically meant to answer questions about the probability of an event to happen over time while also accounting for the probability of the event to never happen (Singer & Willett, 1991). This was specifically important for the current project due to the fact that some students may never reach English proficiency. In survival analysis, participants who do not reach the event of interest are deemed *censored*. Censored observations usually result on account of students dropping out of the study early for personal reasons or simply due to the termination of the study itself. From a survival analysis standpoint, eligible students are observed until the end of the study when they either acquire English proficiency or are labeled as "censored" if they remain classified as an EL.

The survival times to English proficiency for students with ASD who are also classified as EL were illustrated through Kaplan Meier Curves utilizing the entire sample (2011-2019). Kaplan Meier curves were created for each educational placement in order to observe the average survival probability of the identifier EL. For those participants who reached the event of

interest (loss of the EL classification), the Kaplan-Meier survival analysis method identified the age when a student lost their EL classification.

**Results**

*Demographics*

Across all years (2011-2019), a total of 201 students were included who had a diagnosis of ASD and were also classified as EL. The average age across all years was 9.98 years (SD= 2.88). Students had an average of 6.3 observations (SD= 2.14) across all years. At the first observation, 80 students had a general educational placement (45%), 69 of which were Hispanic/Latinx students. A total of 61(35%) students had a median income of less than 40 thousand dollars/year at their first observation with 153 (87.5%) students qualifying for Free and Reduced Lunch (FRL).

*Logistic Regression for Educational Placement*

In order to evaluate potential disproportionality in educational placement, a logistic regression model was used for the 2018-2019 academic school year. To simplify the interpretation of the logistic regression model, odds ratios (OR) were utilized. The general formula of an OR is expressed as $\frac{Odds\ of\ experiencing\ event\ given\ Property\ A}{Odds\ of\ experiencing\ event\ given\ Proberty\ B}$, where Property B is usually defined as the absence of property A, e.g. if A entails the set of individuals with an EL identification, then set B is comprised of those classified as English proficient (ie., no EL identification) . The event of interest is the event of being placed in general education settings. An OR greater than 1 suggests that the odds of being placed in general education given the EL identification is greater than the odds of being placed in general education given English proficiency. For instance, an OR of 1.63 indicates that individuals with an EL identification are 1.63 times more likely to experience the event than those with English proficiency. An OR less

than 1 suggests that the odds of experiencing the event given an EL identification is less than the odds of experiencing the event given English proficiency. For instance, an OR of 0.63 indicates that individuals with an EL identification are 0.63 less likely to experience the event than those who are English proficient. An OR of 1 therefore suggests that there is no difference in the odds of experiencing the event when comparing EL students vs English proficient students. The present formula for the OR is expressed as $\frac{Odds\ of\ GE\ placement\ given\ EL\ identification}{Odds\ of\ GE\ placement\ given\ English\ proficiency}$. The results from the model indicate that there is a negative relationship between educational placement and EL identification for students with ASD. This suggests a significant disproportionate probability for students with ASD who are classified as EL students in special education. The associated odds ratio for a student who may be in the ASDxEL group is 0.38 with a 95% confidence interval of [0.18, 0.80]. This suggests that those students who have ASD and are classified as EL students are 0.38 times less likely of being placed in general educational settings when compared to students who have been classified as English proficient. The overall model was significant with a Chi-squared statistic of 6.4 (*p<0.05, df=1*).

*Survival Probability of EL Identification*

All children at baseline were EL students. The maximum number of observations that each child could have was 8 while the minimum was 2. A total of 104 students had observations for all eight years, for a total mean of 6.3 observations for all students. The survival functions were calculated for two groups: the first group was made up of students who were diagnosed with ASD and classified as EL students in general education (GE) while the second group was in special education (SDC). The Kaplan-Meier curves for students in general education are shown in Fig1a and special education in Fig 1b. The Kaplan Meier curve's X axis can be described as the survival time for EL classification; therefore, the x axis shows how many years a student is

classified as an EL student. The Y axis represents the survival probability, the likelihood that a student's EL classification will remain. The Y axis shows the probability of a student remaining as an EL student across the years.

Results showed that 44.4% of students classified as EL in GE had achieved English proficiency by the time of their last observation. The mean age at which students in GE transitioned to English proficient was approximately 11.8 years. Only 22.5% of students classified as EL in SDC had achieved English proficiency by the time of their last observation. The mean age at which students in SDC were no longer classified as ELL was approximately 12.7 years. The Kaplan Meier curves (Figures 1a and 1b) revealed that the probability of classification as EL decreased as students aged, showing the restricted mean survival time for GE to be 14.2 years old (SE=0.38, while being 15.6 for SDC (SE= 0.36). A log-rank significance test was performed which showed the GE and SDC survival curves to be significantly different ($X^2 =12.2$, $p < .001$).

**Discussion**

This current study sought to utilize administrative data from a large urban school district in order to evaluate the likelihood of becoming English proficient based on educational placement for English Learner (EL) students with ASD and potential disproportionality in educational placement based on EL status. Among the sample of EL students with ASD, two important findings emerged. The rates for English proficiency of EL students with ASD in GE are two times higher than those of EL students with ASD in SDC. The second finding was that students with ASD who did not become English proficient were less likely to be placed in inclusive GE settings than students with ASD who had achieved English proficiency. These data

suggest that reaching English proficiency potentially facilitates an inclusive educational placement for students with ASD, and potentially more academic opportunities.

### *Probability of Becoming English Proficient*

The current study found that EL students with ASD in SDC were becoming English proficient at lower rates than EL students with ASD in GE settings. Among the students in GE, 44% of them had reached English proficiency while only 22% of students in SDC across the academic school years of 2011-2019. The current findings of double the percentage of EL students with ASD in GE settings becoming English proficient suggest that EL students with ASD may benefit from being placed in inclusive GE settings. Previous literature around inclusive practices for students with ASD documents the academic and social benefits from inclusive placements (Stahmer and Ingersoll, 2004) and the current findings allow us to expand such benefits to EL students with ASD. Work from various scholars has identified not receiving academic grade-level instruction as one of the barriers to achieving English proficiency (Thompson, 2017). By placing EL students with ASD in general education classrooms, they are potentially overcoming this barrier as they receive current grade-level instruction and are better prepared for grade-level assessments.

Statewide reports show how on average 88% of the average EL student population becomes English proficient by eighth grade, but among the present sample 84% of those in GE and only 60% of those in SDC had become English proficient by that time (Slama et al., 2017). This comparison highlights the low rates of EL students with ASD who reach English proficiency and serves to emphasize that being an EL student with ASD may add complexities to reaching English proficiency. Nonetheless we observe that in both categories' students with ASD

are indeed reaching English proficiency but being placed in inclusive settings could potentially facilitate the process.

Further differences between both groups are observed though the Kaplan Meier curves as they illustrate the trends of English proficiency by educational placement. Both of the graphs reflect the educational age of entry with a constant flat line at around 5 and 6 years old. The trends of time to English proficiency for EL students with ASD in GE can be described as constant as the survival of the EL identification continuously decreases in a uniform manner. The trends of time to English proficiency for EL students with ASD in SDC can be described as non-constant due to the initial slow decline of the survival probability of the EL identification. The survival probability of the EL identification slowly decreases in non-uniform intervals up until the ages between 10 and 15. The survival probability of the EL identification for ASD students in SDC then begins to decrease in a uniform pattern similar to that of EL students in GE. The differences between the trends of time to English proficiency is further emphasized as results also showed that on average students in GE became English proficient at a younger age (11.8) than students in SDC (12.7). Study results align with previous research from Slama et al., (2017) as their work showed how students who participate in special education are less likely to become English proficient, but also serves to highlight how even students in inclusive settings are not reaching English proficiency as quickly as typical learners might. These findings again highlight the potential positive outcomes of being placed in inclusive setting for EL students with ASD, but also highlight how there may be other factors contributing to disparity between those who reach English proficiency and those who don't.

***Disproportionality in Educational Placement***

The current study showed how ASD students who are EL were less likely to be placed in GE settings when compared to ASD students who had reached English proficiency for the 2018-2019 school year. Specifically, students who have ASD and are classified as EL students are 0.38 times as likely to be placed in general educational settings when compared to students with ASD who have been classified as English Proficient. This allows us to understand that for students with ASD, having an EL identification is a barrier to accessing inclusive general education settings. Results from this study aligns and expands work from Valenzuela et al., (2006) as their work showed how EL students with disabilities had restricted access to inclusive general education settings but did not include students with ASD. Our results show how EL students with ASD are also being restricted access to general education settings which provide beneficial peer interactions that model typical social and language development (Valenzuela et al., 2006). Specifically for students with ASD, long term placement in segregated special education settings has been associated with lower rates of high school degree completion (Connor & Ferri, 2007). The compounded risk of being an EL student and having ASD could potentially diminish the chances for high school graduation and could impact the success of transitioning into adulthood. Autistic young adults have among the lowest post-secondary education and employment rates among disabled individuals (Shattuck et al, 2012). Various nationally representative studies show that autistic young adults have a hard time becoming employed and staying employed, especially when they come from low-income backgrounds (Friedman et al., 2013). Due to the risks that are present for EL students with ASD we can predict that becoming English proficient is a vital skill that can directly influence their futures. Therefore, for EL students with ASD, becoming English proficient may be a priority in order to increase not only the likelihood of

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being placed in inclusive settings but to be better prepared for a successful transition into adulthood.

**Limitations**

The current study had various limitations which future research hopes to address. First, the current data did not include English Learners with no disability identification, therefore no comparison between the two groups could be made on what the current average student trends were among the specific school district. Secondly, the current study did not have access to student's IEP goals or academic records and could therefore not make a distinction between students who may be greatly impacted by their disability in special education. It would be anticipated that those with extensive communication needs would have a harder time being classified as English proficient and being placed in general education, but this also raises concern around how language ability and English proficiency is evaluated among EL students with ASD with extensive communication needs. Finally, the current study followed a cohort-like type of analysis for one large-urban school district and therefore generalizations should be made with caution to populations across other districts.

The growing number of English Learners with ASD calls for further longitudinal research in order to document the rates at which such students reach English proficiency. This process may be furthered complicated by the intersectional identities of EL learners as members of ethnic racial minorities, linguistic minorities, and the disabled community. By documenting the prevalence of EL students with ASD, further research may begin to analyze the specific formalities that make up the English proficiency process for students with ASD. Under IDEA, students with ASD must receive the appropriate adaptations and accommodations for standard testing, including those utilized to assess English proficiency. Such accommodations include

Universal Design features (i.e., having the ability to zoom, highlight, strikethrough text, having access to a digital dictionary or calculator), evaluating text to ensure accessibility, with the hopes that test scores will be comparable across subgroups of students (Lane & Leventhal, 2015). Nonetheless, there is still a risk of testing not accurately capturing a student's true subject knowledge due to construct underrepresentation. This occurs when a student does not have access to the true constructs of a question due to the English language that is used in the test (Lane & Leventhal, 2015; Abedi, 2006). Taking such concerns into consideration, research on English proficiency assessments for students with ASD must look into the validity of such assessments and assure that students are being correctly and equitably assessed. Further research hopes to be able to replicate the previous analysis across EL students who did not have ASD and across other disabilities such as ID and SLD. This would not only increase the sample size but also allow for potential analysis across disability, ethnic, and income categories. Future research hopes to further analyze the importance of setting and identifying particular elements of a specific setting that impact a students' chances of becoming English proficient. Future research also hopes to be able to conduct multilevel modeling in order to be able to observe and evaluate the proficiency and disproportionality rates across years.

**Appendix**

**Table 1.** *Demographic Characteristic of Participants at Baseline (2011)*

| Baseline characteristic | GE (n=80) | SDC (n=96) |
|---|---|---|
| Mean Age (SD) | 6.96 (1.72) | 6.41 (1.52) |
| Race/ Ethnicity | | |
| Hispanic | 69 | 86 |
| White | 4 | 2 |
| Asian | 5 | 6 |
| African American | 0 | 0 |
| Other | 2 | 2 |
| Gender | | |
| Female | 7 | 21 |
| Male | 73 | 75 |
| FRL | | |
| Yes | 65 | 88 |
| No | 15 | 8 |
| Grade | | |
| Kindergarten/ Transitional Kinder | 24 | 37 |
| 1st | 20 | 25 |
| 2nd | 11 | 15 |
| 3rd | 9 | 12 |
| 4th | 12 | 4 |
| 5th | 4 | 3 |
| Median Income Categories | | |
| Less than $40,000 | 35 | 26 |
| $40,000-$80,000 | 60 | 48 |
| $80,000-$120,000 | 1 | 6 |
| $120,000 | 0 | 0 |

*Note.* GE= general education, SDC= special education, FRL= free reduced-priced lunch

**Table 2.** *Logistic Regression Output Table*

**EL Identification and Educational Placement**

|  | Educational Placement |
|---|---|
|  | General Education (1) |
| English Learner with ASD | -0.971** |
|  | (0.385) |
| Constant | -0.343 |
|  | (0.279) |
| Observations | 138 |
| Log Likelihood | -79.853 |
| Akaike Inf. Crit. | 163.706 |
| Significance levels | *p<0.1; **p<0.05; ***p<0.01 |

**Table 3.** *Odds Ratio for Educational Placement Based on EL Status*

|  | OR | 95% CI | | *p* |
|---|---|---|---|---|
|  |  | Lower | Upper |  |
| English Learner | 0.38 | 0.18 | 0.80 | 0.012 |

*Note.* OR= odds ratio

**Figure 1.** *Product-Limit Survival Estimates for AUTxEL Students in GE Settings*
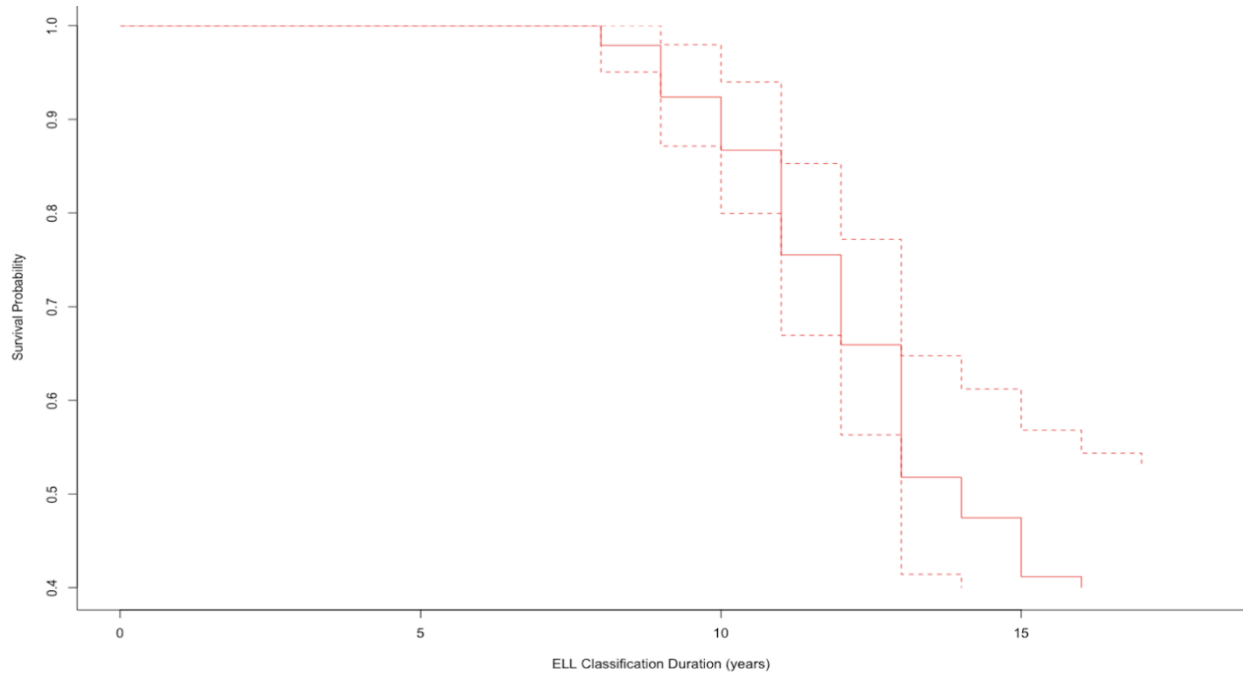


*Note.* Product-Limits Survival Estimates estimate the survival probability of the EL

identification.

AUT= Autism classification, EL= English Learner, GE= general education
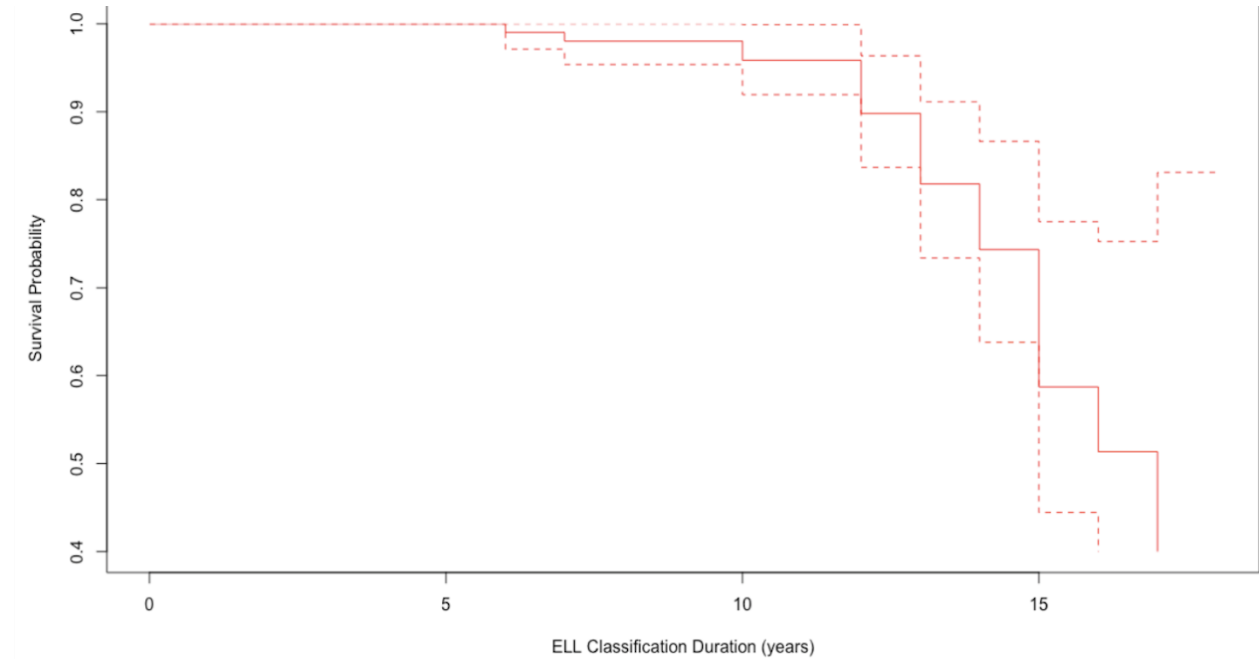
**Figure 2.** *Product-Limit Survival Estimates for AUTxEL Students in SDC Settings*



*Note.* Product-Limits Survival Estimates estimate the survival probability of the EL

identification.

AUT= Autism classification, EL= English Learner, SDC= special education

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